KFH GROUP, INC.

Lake Country Area Agency on Aging: Lake Area Bus/Halifax Area Rural Transit Transit Development Plan

Final Report

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Under Subcontract to:
Cambridge Systematics

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Lake Country Area Agency on Aging
and the
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Chapter 1

Overview of Transit System

INTRODUCTION

The Virginia Department of Rail and Public Transportation (DRPT) emphasizes investing in transit systems that are meeting existing demand for public transportation and that desire to meet growing demand for improved bus, rail, and ferry service through careful coordination of transit and land use planning. As such, DRPT requires that any public transit (bus, rail, ferry) operator receiving state funding prepare, adopt, and submit a Transit Development Plan (TDP) at least every six years. DRPT provides a set of TDP requirements that form the basis of the planning effort. This report documents the Lake Country Area Agency on Aging (LCAAA) TDP.

OBJECTIVE

The objective of this task order is to assist LCAAA with creating a TDP with a six-year planning horizon. The TDP is intended to:

- Serve as a management and policy document for LCAAA's transportation program,
- Provide DRPT with information necessary for programming and planning,
- Provide DRPT with an up-to-date record of LCAAA's transportation program capital and operating budgets,
- Provide LCAAA's transportation program with the basis for including capital and operating projects in the Six Year Improvement Program (SYIP), Statewide Transportation Improvement Program (STIP), and the Long Range Transportation Plan (LRTP).

This TDP will be developed to the requirements and follow the report format as stated in the DRPT TDP Requirements document.

LCAAA's transportation program is operated by Lake Country Area Agency on Aging, which is a private non-profit agency. It provides human service agency transportation, primarily to seniors (its own clients) accessing agency programs (including nutrition sites and adult day programs), and to Medicaid clients for medically-necessary trips (as a contract provider to Logisticare, Inc., the Medicaid transportation brokerage), in Mecklenburg, Brunswick, and Halifax Counties (Figure 1-1 presents the overall service area). It also provides demand-responsive public transportation within the town limits of South Hill, La Crosse, and Brodnax, using the name Lake Area Bus (LAB); and in the towns of South Boston and Halifax under the name Halifax Area Rural Transit (HART). The TDP addresses primarily the general public service provided by LAB and HART, recognizing that it is produced by the same organization that provides agency services in Mecklenburg, Brunswick, and Halifax Counties.

HISTORY

LCAAA has been in operation since 1974, and transportation services have been included among its services most of the time since then. As the Area Agency on Aging, it has provided transportation to seniors in its service area during that time. Federal Transit Administration (FTA) Section 5310 funding for vehicles, provided through DRPT, was the initial link between LCAAA and the state and federal transit programs. Section 5310 provides vehicles to be used for transportation of elderly and disabled persons, and the transportation program of the LCAAA met the eligibility requirements.

LCAAA expanded into the provision of general public transportation with LAB, which began operation on July 1, 1997. As a general public service, it receives funding for vehicles and operating assistance from FTA and DRPT sources under the Section 5311 program. This service has gone through some changes over the years, and is now a demand-response service within the town limits of South Hill, La Crosse, and Brodnax. At one time it operated on a route, but productivity and ridership was low, and it was changed to demand-response, resulting in an increase in ridership. The service area is linked to the provision of local operating match by the towns.

The other general public service began as a demonstration project funded by the Community Foundation of the Dan River Region through the Chastain Home Fund. HART service began on October 3, 2005. It was initially a free-fare demand-response service in the towns of South Boston and Halifax. Following the initial year, it

Figure 1-1: Base Map for Lake Country, Virginia

was funded for a year by DRPT under its Demonstration program before transitioning to the Section 5311 program of rural transportation.

LCAAA continues to provide transportation to senior citizens (persons 60 and above) throughout Mecklenburg, Brunswick, and Halifax Counties. Trips are provided to and from nutrition sites, medical appointments, human service agencies, and to recreational activities. These trips are provided according to the standards and requirements of the Virginia Department for the Aging, which is the primary funding source for the aging programs (in addition to local match funds). Under these guidelines, the eligible population is persons 60 and above who lack the ability to transport themselves and lack other means of transportation. Priority is given to those persons in the greatest economic and social need, with preference to low-income minority populations and those residing in geographically isolated areas. So the LCAAA senior citizen transportation is focused on those persons who have the greatest need and lack alternatives.

LCAAA also became a provider of transportation to Medicaid eligible (low-income) persons for medical trip purposes. Medicaid transportation is provided in the same three counties plus limited trips to Lunenburg County. Under this program, LCAAA vehicles may provide client transportation to major medical facilities outside the service area, including Richmond, Charlottesville, and Durham, North Carolina.

GOVERNANCE

LCAAA is a private non-profit organization organized under Section 501(3)c. The governing board for the transportation program is the Board of Directors of LCAAA, composed of representatives of jurisdictions in the service area as follows:

- Brunswick County — Two members,
- Halifax County —Three members,
- Mecklenburg County—Three members, and
- Town of South Hill— One member.

These representatives are appointed by the jurisdictions. Appointments take effect on October 1, and after their initial terms, all Directors hold office for three years. The Board must meet four times per year at a minimum, and members receive written notice seven days in advance. The Area Agency also has an Advisory Council and an Adult Day Care Advisory Council. The Advisory Council is composed of local officials clients, and other community members representing the jurisdictions of the LCAAA service area and the population using LCAAA services. This Advisory Council reviews the agency's Area Plan for Aging, and provides input to the Board of Directors

regarding that plan. It meets at least quarterly. Transportation issues can be addressed in the Council, and the Transportation Coordinator attends the meetings.

ORGANIZATIONAL STRUCTURE

The Executive Director of LCAAA reports to the Board, as shown in Exhibit 1-1, which presents an organizational chart of the entire agency, including the transportation program. The transportation program is directed by the Transportation Coordinator, who reports to the Executive Director (if the Executive Director is unavailable and guidance is needed, the Transportation Coordinator can report to the Executive Vice President).

The Transportation Coordinator is assisted by the Transportation Assistants. There are two Transportation Assistants in the South Hill office and one in the Halifax office. The two Transportation Assistants in South Hill have different roles that are complementary, with one handling scheduling, invoicing, and the LAB telephone, and the other handling other scheduling, maintenance oversight, reporting, and other duties. The Halifax Transportation Assistant handles all of the administrative, scheduling and dispatching functions for HART, congregate meal and Medicaid transportation in South Boston and Halifax, and the rural areas of Halifax County. Maintenance is conducted by local garages. Different shops are used depending on the type of work needed. The Halifax vehicles are maintained in the South Boston/Halifax area. The maintenance function includes the participation of the drivers, who perform a daily pre-trip inspection. Maintenance is overseen by the Transportation Assistants, who maintain a separate Vehicle Folder for each vehicle, containing a record of all work on the vehicle, Purchase Order/Word Order numbers, and costs. Other transportation staff include the drivers, who bear the responsibility for providing safe, timely transportation, and are the face of the organization to the customer.

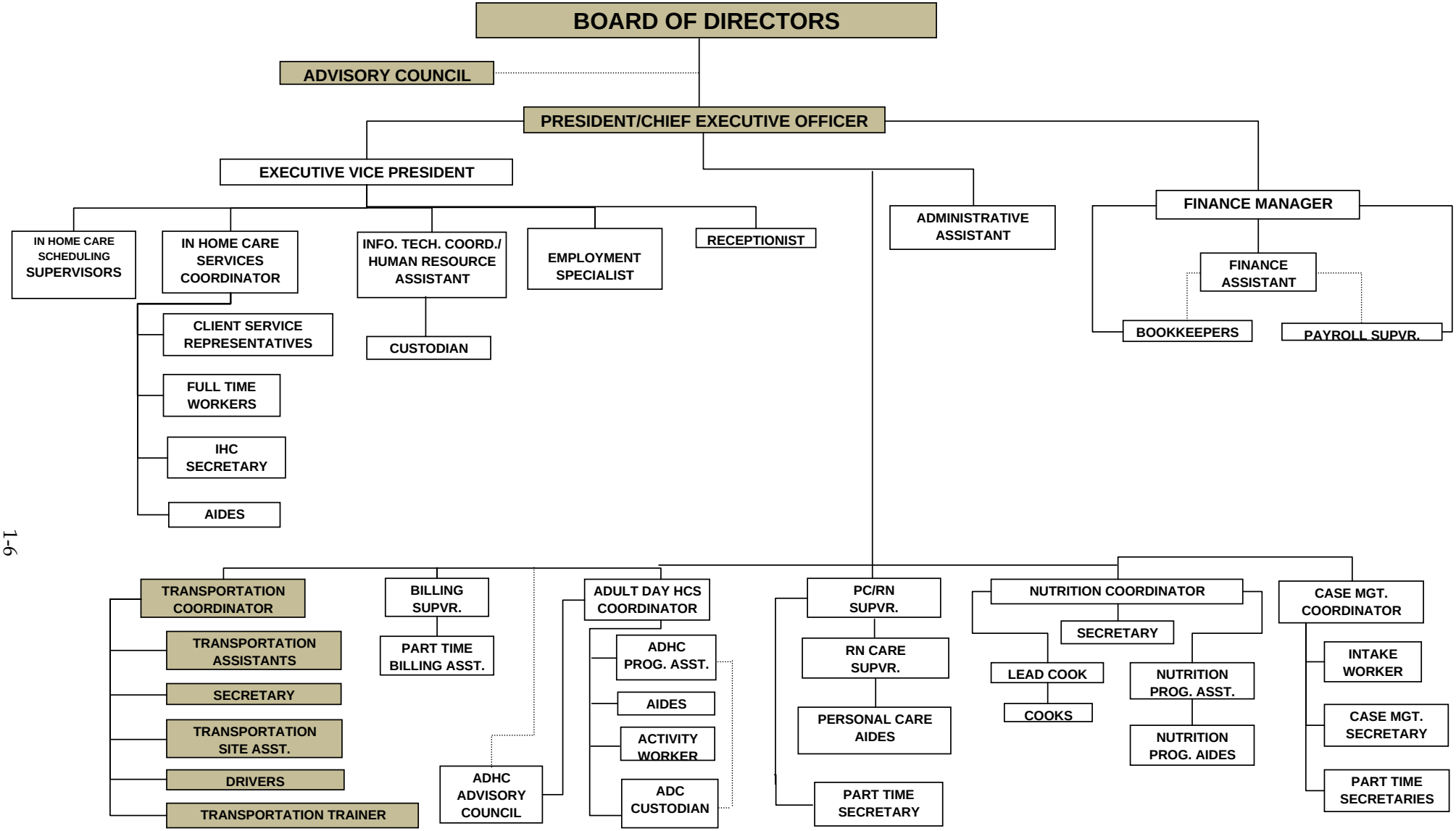
TRANSIT SERVICES PROVIDED AND AREAS SERVED

As noted above, LCAAA provides a variety of transportation services.

- **General public transportation** is provided inside the town limits of South Hill, La Crosse, and Brodnax by LAB, and inside the town limits of South Boston and the Town of Halifax by HART. Both of these are provided on a demand-response basis with a 24-hour advance reservation requirement. Hours are 8:15 a.m. to 4:30 p.m., Monday through Friday.

Exhibit 1-1: LCAAA Organizational Chart

LAKE COUNTRY AREA AGENCY ON AGING



- **Senior transportation** is provided on a demand-response basis for persons over 60 to nutrition sites, medical appointments, human service agencies, and recreational activities. These services are provided throughout Mecklenburg, Brunswick, and Halifax Counties.

- **Non-emergency Medicaid transportation** is provided to persons who are Medicaid-certified, for medical trip purposes, under contract to Logisticare, the Virginia Medicaid transportation broker for that part of the state. There is also private-pay medical transportation provided in the three counties. This service is demand-response, and is provided on the hours and days required, but generally Monday through Friday. Medicaid transportation is provided in Halifax, Mecklenburg, Brunswick, and Lunenburg Counties.

- **Adult day care transportation** is provided to clients of LCAAA's adult day care facilities. These services are funded by a variety of sources, including Title III, Medicaid, and private pay. Again these services are Monday through Friday, with a morning pickup trip and a late afternoon return trip. Adult day care transportation is provided in Mecklenburg and Brunswick Counties, but not Halifax.

Other Transportation Providers in the LCAAA Region

Taxi Companies

Previous studies and Yellow Page listings identify the following private transportation providers within Lake Country in addition to LCAAA. However, with the exception of Greyhound, this TDP was unable to verify that the companies below are currently in operation. LCAAA staff maintain that no taxi service is available to residents at this time, though these firms may be contract providers of Medicaid transportation under the statewide brokerage.

- Nick Walker's Taxicab (South Hill)
- Bower Cab Co. (South Hill)
- Mack's Cab (South Hill)
- Jackie's Cab Co. (South Boston)
- South Boston Cab Co. (South Boston)
- Jeff's Cab Co. (Baskerville)
- Robert Layton Cab Services (Lawrenceville)
- Mosley Transporting Taxi Service (Red Oak)

Intercity Bus Service in the LCAAA Region

Despite the reduction in rural intercity bus services over the past decades, both South Hill and South Boston are still served by Greyhound Lines, Inc. The station in South Hill is located at the Slip N Food Mart, 1011 E. Atlantic Avenue, South Hill 23970 (434-447-4000). Generally the station is open every day from 6:45 a.m. to 1:30 p.m., and from 2:30 p.m. to 8:45 p.m. Passengers are asked to call to verify that the station is open, because these times are subject to change. The hours for the Bus Package Express service at the station are the same. The bus schedules serving the station include a southbound bus from Richmond and Petersburg; to Raleigh, N.C., Charlotte and Atlanta at 12:35 p.m. The northbound bus from Atlanta, Charlotte, Raleigh, and Henderson, N.C. to Richmond stops at 10:35 p.m. The station appears to be closed when the northbound schedule goes through, and of course the LAB bus is not operating at that time either. Also of note, while one can take the bus from Petersburg to South Hill, there is no return trip as the 10:35 p.m. northbound bus does not stop in Petersburg, arriving in Richmond a minute before midnight. The next Greyhound bus back from Richmond to Petersburg is not until 11:35 a.m., so a northbound trip to Petersburg would take nearly 12 hours.

In South Boston the Greyhound stop is at the Stop in Shell, 2190 B Philpott Road, South Boston, VA 24592, which is listed as a stop with no staff or services. Although patrons are asked to call the station to verify hours, Greyhound does not list a phone number for the stop. Station hours are listed as midnight to midnight for both the station and ticketing, and there is no Bus Package Express service. However, the bus times are fairly convenient. Southbound, the bus from Richmond and Farmville stops at 9:00 a.m. before continuing to Danville and then on to Greensboro, N.C. Northbound, the bus from Danville stops at 3:35 p.m. before continuing to Farmville and then Richmond. The relatively convenient schedules may not be fully utilized because of the lack of ticketing and Bus Package Express at the stop location. This suggests that finding a commission agent to provide information and sell tickets and package express would make sense. In some rural areas transit agencies have taken on this role, as they may already have office locations and staff on duty, and see it as part of their overall transportation role.

Blackstone Area Bus (BABS) Brunswick Express

The BABS system provides public transportation in Brunswick County with a route that links Blackstone, Alberta, and Lawrenceville. The service is provided on a route deviation basis, with a designated route and stops at designated times. The fare (Monday-Thursday) is $0.50. The daily cycle includes service from Blackstone to the Southside Virginia Community College (SVCC), from the college to Lawrenceville and back, around Alberta, and then from SVCC to Lawrenceville and back, and then a

circuit from SVCC to Alberta. SVCC, Brunswick Social Services, and the Town of Lawrenceville provide financial contributions to the local match for this service.

Fare Structure for LAB and HART

The fares on both of LCAAA's general public services, LAB and HART, are the same, $1.50 per boarding, with children under age three allowed to ride free. On the LCAAA services for seniors, there is no "fare", but donations are accepted. Envelopes and receipts for contributions are provided by the vehicle drivers. Medicaid transportation is provided under contract, and there is no user fee to eligible clients for eligible trips.

Fleet

The entire LCAAA vehicle fleet includes 72 vehicles, but not all of them are used for public or client transportation. As can be seen in Table 1-1, 34 of the vehicles were funded under the Section 5310 program, and they are used to operate coordinated human service transportation. The Section 5310 fleet includes 20 passenger vans mostly with 12 or 13 passenger capacity, 13 mini-vans with 4-7 passenger capacity (or room for two wheelchair passengers), and one body-on chassis small bus with 13 seats (and one wheelchair position). The Section 5311 fleet includes four vehicles, which includes two new (2011) body-on-chassis small buses (12 seats for ambulatory passengers, two wheelchair positions), one each for HART and LAB, along with the two 2006 (ten ambulatory and two wheelchair positions) predecessor vehicles which are available for back-up or peak needs. In addition, there is a fleet of five sedans that are used to transport medical clients. The remaining vehicles in the fleet are sedans or trucks assigned to particular staff members or used by the other programs of the agency.

LCAAA has found that minivans are an appropriate size/capacity vehicle for many of their services, offering easy access and economical operation for the demand experienced for the client transportation portion of the program. The newer minivans have capacity for two wheelchairs, like the larger vans and body-on-chassis vehicles, but fewer ambulatory seats, reflecting a need for more wheelchair capacity. The two general public services use the larger body-on-chassis small buses, which offer more capacity for peak loads.

Five of the Section 5310 vehicles are designated as spares, and they are generally the oldest passenger vans, from 1999-2002. Two of the Section 5311 vehicles, the older ones, function as spares though they are not designated as such. If one views the combined Section 5311 and Section 5310 fleet as being 38 vehicles, the seven "spares" would result in a spare ratio of 22.5%. However, if the two Section 5311 vehicles are seen as both peak capacity and backup, the spare ratio is approximately 15%, with a

Table 1-1: LCAAA Vehicle Inventory

Veh	Year	Make	Model	I.D. #	Garage	Seating Capacity	LIC. #	Cost	Use	Mileage
O2	1996	Chev	Cavalier	1G1JC5246T7218988	South Hill	5	49-596L	$2,100.00	UPSTAIRS	232,519
O3	1996	Chev	Cavalier	1G1JC5246T7220353	South Hill	5	49-599L	$1,600.00	UPSTAIRS	181,554
O7	2003	Dodge	Pass Van	2D7LB31Z13K513482	Halifax	13	112-377L	$29,940.00	Route Van	78,350
O8	2003	Dodge	Pass Van	2D7LB31Z33K513483	Halifax	13	112-378L	$29,940.00	Route Van	45,334
O9	2003	Dodge	Mini Van	2D4GP24383B221142	Halifax	4	112-383L	$36,099.00	WHCHR (2)	89,308
1O	2003	Dodge	Mini Van	1D4GP24333B221145	South Hill	4	112-384L	$36,099.00	WHCHR (2)	148,550
11	2003	Ford	Truck	2FTRX17W63CA67167	South Hill	2	117-005L	$36,895.00	HOTSHOT	89,009
12	2004	Ford	Pass Van	1FTSS34L64HA91744	South Hill	12	117-016L	$25,469.00	Route Van	51,465
13	2004	Ford	Pass Van	1FTSS34L04HA96390	Halifax	12	117-017L	$25,469.00	Route Van	60,691
14	2005	Ford	BOC	1FDWE35S05HA08790	South Hill	13	117-033L	$36,203.00	WHCHR	18,987
15	2004	Chevy	Mini Van	1GBDX23E64D267453	South Hill	4	117-035L	$34,000.00	WHCHR (2)	122,495
16	1998	Ford	Crown Vic	2FAFP71W4WX111152	South Hill	5	120-078L	$3,300.00	NOT IN USE	185,457
17	2004	Ford	Mini Van	2FMZA57654BA28629	South Hill	5	117-036L	$16,335.00	G.HINZMAN	100,614
18	2004	Ford	Pass Van	1FTSS34L74HB45150	South Hill	13	117-045L	$25,469.00	Route Van	94,992
19	2004	Ford	Pass Van	1FTSS34L04HB45152	South Hill	13	117-044L	$25,469.00	Route Van	93,171
20	2004	Ford	Pass Van	1FTSS34L94HB45151	South Hill	13	117-043L	$25,469.00	Route Van	63,416
21	1999	Dodge	Stratus	1B3EJ56H7XN596137	Halifax	5	117-049L	$2,700.00	TRANS	211,515
23	1989	Ford	Pass Van	1FBJS31H1KHC40073	South Hill	15	96-078L	$15,640.00	GARBAGE	145,046
24	1999	Dodge	Stratus	1B3EJ56H56XN587770	South Hill	5	117-047L	$2,700.00	TRANS	187,022
25	2001	Chevy	Cavalier	1G1JC524717224117	South Hill	5	117-046L	$2,600.00	R.McGEE	226,947
26	1998	Dodge	Stratus	1B3EJ56H1WN311236	South Hill	5	116-971L	$2,300.00	A.LACKS	183,688
27	1991	Ford	Mini Van	1FMCA11U5MZB19645	South Hill	7	10-210L	$14,559.00	UPSTAIRS	191,865
28	1999	Ford	Crown Vic	2FAFP73W5XX171570	South Hill	5	116-972L	$2,700.00	TRANS	210,442
29	1998	Chevy	Lumina	2G1WL52M3W9156653	South Hill	5	116-970L	$2,000.00	L.GAGE	179,846
30	2000	Dodge	Stratus	1B3EJ56H4YN169063	South Hill	5	116-987L	$2,000.00	TRANS	173,974
32	1999	Buick	Century	2G4WS52M1X1502513	South Hill	5	116-988L	$1,700.00	TRANS	155,320
33	2006	Dodge	Mini Van	1D4GP24R6B680623	South Hill	7	116-998l	$31,363.00	WHCHR (2)	86,270
34	2006	Dodge	Mini Van	1D4GP24R76B680624	South Hill	5	116-999L	$30,753.00	WHCHR (2)	95,626

Table 1-1: LCAAA Vehicle Inventory

Veh	Year	Make	Model	I.D. #	Garage	Seating Capacity	LIC. #	Cost	Use	Mileage
35	1994	GMC	Mini Van	1GKDM15ZXRB543087	South Hill	7	72-241-L	$14,333.00	E.YOUNG	179,777
36	2006	Dodge	Mini Van	1D4GP24R96B680625	South Hill	5	122-851L	$30,753.00	WHCHR (2)	101,726
37	2006	Ford	Pass Van	1FTSS34L06DA71970	Halifax	13	117-000L	$26,323.00	Route Van	43,692
38	2006	Ford	BOC	1FDWE35S56DB33145	South Hill	10	122-867L	$42,911.00	LAB/WHCHR	70,052
39	2006	Ford	BOC	1FDWE35S36DB33146	Halifax	10	122-866L	$42,911.00	HART/WHCR	103,368
40	1999	Dodge	Intrepid	2B3HD46R1XH742354	South Hill	5	122-885L	$2,200.00	TRANS	142,526
41	1998	Dodge	Stratus	1B3EJ56H0WN239610	South Hill	5	118-947L	$2,000.00	UPSTAIRS	177,468
42	2007	Ford	Van	1FTSS34L97DB28989	Halifax	7	112-888L	$35,817.00	WHCHR	34,627
43	1996	Chevy	Cavalier	1G1JC5240T7179542	South Hill	5	122-889L	$1,400.00	UPSTAIRS	170,342
45	1996	Chevy	Cavalier	1G1JC5249T7220329	South Hill	5	122-890L	$1,400.00	UPSTAIRS	162,212
46	1994	Chevy	Cavalier	1G1JC5442R7299462	South Hill	5	122-891L	$900.00	UPSTAIRS	136,316
47	1996	Dodge	Van	2B7KB31Z2TK144881	Halifax	6	19-082L	$26,000.00	WHCHR	118,863
48	1997	Chevy	Cavalier	1G1JC5240V7207178	South Hill	5	122-892L	$1,500.00	UPSTAIRS	147,356
49	2001	Chevy	Cavalier	1G1JC524417363444	South Hill	5	122-893L	$1,700.00	UPSTAIRS	183,151
50	1999	Chevy	Cavalier	1G1JC5249X7294579	South Hill	5	122-895L	$1,500.00	UPSTAIRS	157,336
53	2008	Ford	Van	1FT2S34L78DB44982	South Hill	7	143-441L	$38,006.00	TRANS	23,642
56	1997	Dodge	Van	287HB21X6VK539782	South Hill	7	96-088L	$29,038.00	WHCHR(2)	165,145
57	1998	GMC	Mini Van	1GKDM19W3WB526465	South Hill	7	19-146L	$18,973.00	D.LYTLE	166,127
58	2008	Chevy	Mini Van	1GBDV13W78D212489	South Hill	7	152-063L	$37,308.00	WHCHR(2)	55,040
59	2008	Chevy	Mini Van	1GBDV13W08D212494	South Hill		152-046L	$37,308.00	WHCHR(2)	46,524
61	1996	Oldsmobile	Ciera	1G3AJ55M7T6345540	South Hill	5	96-085L	$9,400.00	UPSTAIRS	197,348
62	1999	Ford	Truck	1FTZF172XXNB19724	South Hill	2	96-094L	$16,398.50	HOTSHOT	107,787
63	1997	Chevy	Cavalier	1G1JC5244V7261759	South Hill	5	152-073L	$1,400.00	L.CHANDLER	149,326
64	1999	Dodge	Pass Van	2B6LB31ZXXK539390	South Hill	12	32-329L	$32,702.00	SPARE	125,749
65	1999	Dodge	Pass Van	2B6LB31Z8XK539386	South Hill	12	32-330L	$32,702.00	SPARE	148,407
66	1993	Plymouth	Sundance	1P3XP28D6PN593566	Halifax	5	32-340L	$1,300.00	UPSTAIRS	236,458
67	1997	Chevy	Cavalier	1G1JC5248V72 1180	South Hill	5	152-074L	$1,400.00	B.Montomery	123,322
68	1997	Chevy	Cavalier	1G1JC524XV7200934	Halifax	5	152-075L	$1,400.00	HOMECARE	147,844
70	2000	Dodge	Pass Van	2B6LB31Z1YK132947	South Hill	14	44-102L	$28,100.00	SPARE	68,696

Table 1-1: LCAAA Vehicle Inventory

Veh	Year	Make	Model	I.D. #	Garage	Seating Capacity	LIC. #	Cost	Use	Mileage
71	1994	Jeep	Cherokee	1J4FJ28SRL197921	South Hill	4	19-110L	$9,000.00	J.CLEATON	137,729
72	2000	Ford	Truck	1FDWE35L1YHA90820	South Hill	2	112-361L	$25,800.00	BOX TRUCK	54,487
73	2010	Dodge	Mini Van	2D4RN4DE0AR282561	South Hill	7	152-098L	$33,641.00	WHCHR(2)	15,744
74	2010	Dodge	Mini Van	2D4RN4DE4AR282563	South Hill	7	152-099L	$33,641.00	WHCHR(2)	13,377
75	2011	Ford	BOC	1FDFE4FS5BDA13457	South Hill	12	152-100L	$46,792.00	LAB/WHCHR(2)	12,781
76	2011	Ford	BOC	1FDFE4FS0BDA13463	Halifax	12	159-802L	$46,792.00	HART/WHCR(2)	15,158
77	2010	Dodge	Mini Van	2D4RN4DE3AR498470	South Hill	6	159-811L	$32,796.00	WHCHR (2)	5,003
78	2010	Dodge	Mini Van	2D4RN4DE7AR498471	South Hill	6	159-810L	$32,796.00	WHCHR (2)	4,793
79	2010	Dodge	Mini Van	2D4RN4DE1AR498466	South Hill	6	159-812L	$33,641.00	WHCHR (2)	3,614
83	2001	Dodge	Pass Van	2B6LB31Z61K526269	South Hill	13	44-130L	$27,527.00	Route Van	64,614
84	2001	Dodge	Pass Van	2B7LB31Z21K528533	Halifax	13	44-132L	$27,527.00	SPARE	95,034
85	2001	Dodge	Pass Van	2B7LB31Z61K528535	South Hill	13	44-131L	$27,527.00	Route Van	63,672
94	1996	Chevy	Cavalier	1G1JC5247T7181580	South Hill	5	49-574L	$2,900.00	UPSTAIRS	202,079
97	2002	Dodge	Pass Van	2B7LB31Z52K112297	South Hill	14	49-575L	$28,243.00	SPARE	126,400
99	2002	Dodge	Van	2B7LB31Z02K117228	South Hill	13	49-578L	$33,734.00	WHCHR	78,848

5310 Vehicles cars used to transport medical clients
5311 Vehicles Updated 08/19/2011

Vehicles No Longer Under Section 5311 or Section 5310 Inventory

Veh	Year	Make	Model	I.D. #	Garage	Seating Capacity	LIC. #	Cost	Use	Mileage
01	2002	Chev	BOC	1GBJB31GX21152642	South Hill	14	96-091L	$39,894.00	LAB/WHCHR(2)	94,224
51	1997	Chevy	BOC	1GBJG31J3T1021498	South Hill	10	19-111L	$38,258.00	LAB/WHCHR(2)	128,522
54	1997	Ford	BOC	1FDKE30S2VHA80760	South Hill	12	19-112L	$38,230.00	WHCHR	96,369
60	1998	Dodge	Van	2B7LB31Z0WK133919	South Hill	10	96-089L	$35,364.00	WHCHR	113,907

peak fleet of 33 vehicles and five listed as spares. Because LCAAA operates out of two locations that are 58 miles apart, there is a need to have adequate spare vehicle capacity in both locations. In addition, there is a need for a higher spare ratio to be sure that there is adequate backup for both the general public and the agency services.

Existing Facilities

LCAAA transportation operates out of two facilities, one in South Hill at the LCAAA offices at 1105 West Danville Street, and one in Halifax. Fifty-nine vehicles are based in South Hill, and the remaining 12 are based in Halifax. In South Hill, the transportation program operates out of offices on the lower floor of the LCAAA headquarters building, with its own door to the back of the facility. The offices include an open area, with two desks used by the Transportation Assistants, and an office for the Transportation Coordinator. The vehicles are stored in a lot behind and below the building. The lot is not fenced or lit, and when the fleet is not on the road, it is crowded.

In Halifax the vehicles are dispatched out of the LCAAA Senior Center at 5037 Halifax Road, Halifax, Virginia 24550, which is located between the Towns of Halifax and South Boston. Vehicles are parked at the Center in an unfenced lot with no security lighting. It should be noted that to this point, vandalism at either South Hill or Halifax has not been an issue. This is basically a rented office which has office space for program oversight, but not enough for congregate meals which are provided by the agency in a local church facility.

Transit Security Program

LCAAA Transportation abides by safety and security policies and arrangements in order to ensure safe and secure transportation and meet federal and state requirements. Policies include daily pre-trip vehicle inspections performed by drivers (of headlights, taillights, brake lights, tries, fluid, etc.) and other checks at the end of each business day. In addition to a pre-hire road test and a three-day initial training, LCAAA drivers complete Adult CPR courses every year, first aid instruction every three years, and in-service training twice a year on subjects like defensive driving and wheelchair securement. Riders in LCAAA vehicles are required to wear seat belts, and car seats are available for children. Drivers are advised on radio/cell phone protocol during security breaches, and local town emergency evacuation plans are believed to include LCAAA and its vehicles as resources available for evacuation or other emergency situations.

Public Outreach

LCAAA transportation is generally well known in the region, and it has been visible in past years through the provision of transportation at public events—now done exclusively with vehicles that do not have a federal interest. Public hearing requirements associated with Section 5310 and Section 5311 vehicle capital applications have been met, including letters to other agencies and providers about plans to apply, and public hearings when required or requested.

LCAAA has a separate information brochure for each of the public transit services, LAB and HART, which includes information about how to use the service, its availability to the public, restrictions, fares, reservations, etc. There is no Title VI language in the brochures, and this might need to be addressed in an update.

LCAAA Transportation is also included in the overall LCAAA website, though there is limited information about the specific services, and persons are encouraged to call for more detailed information or to make reservations.

As part of the TDP, LCAAA distributed a survey to users of its transportation services and to non-users, and the results of this public input process are presented in Chapter 3.

Chapter 2

Goals, Objectives, and Standards

GOALS

LCAAA as a agency has overall goals related to its role as the Area Agency on Aging, and as an advocate for the overall welfare of the aging population in its service area. There is nothing in the Director's By-Laws specifically addressing the provision of transportation to the senior population or the general public.

At the initial meeting of the TDP Steering Committee a discussion of goals and objectives resulted in the statement that the goal of LCAAA transportation is to provide basic mobility for persons who need it. Additional discussion addressed the "how" of transportation provided by the agency noting that an objective is to provide transportation service in a friendly way that reflects the support of a community (of transportation providers and customers).

The LCAAA system uses the Virginia Department for the Aging Transportation Services "Service Standard" as a basic set of standards for all services, though the eligibility aspects for the Aging program are not applied to the general public services. The Aging program standards include safety policies regarding driver testing, a driver record check, record-keeping requirements, job descriptions, insurance requirements, accident reporting, ridership reporting, program income requirements, driver requirements, training requirements, supervision, and monitoring. Similar requirements are implied by the agency's acceptance of Section 5311 program funds from DRPT, but LCAAA refers to the Aging program requirements as the standards they use.

There are no quantitative objectives currently used by LCAAA to evaluate the performance of its various services, and although LCAAA does report annually to DRPT on a number of performance measures, there are no predetermined levels that would trigger service changes. Virginia does not have established statewide performance benchmarks, criteria, or requirements.

OBJECTIVES

Currently LCAAA has no defined service or performance objectives that can be used to evaluate the performance of the system. Objectives have been developed as part of the TDP, with performance standards based on current LCAAA LAB/HART performance and an examination of peer systems. They are presented below.

SERVICE LEVEL

The two general public services, LAB and HART, provide demand-responsive service within the town limits of their defined service areas. Users must call for a reservation 24 hours in advance, though efforts are made to provide same-day service if possible if a customer requests or needs it. There is no weekend service, and weekday service hours are from 8:15 a.m. to 4:30 p.m. Two vehicles are available for each system; one is a newer primary vehicle, and one is an older vehicle available for peak demand or for backup.

The human service transportation program capacity is geared to the client transportation loads that are expected given the primary program demand (congregate meals, medical trips).

PROPOSED GOALS, OBJECTIVES, AND STANDARDS

At the initial Steering Committee meeting for the TDP, discussion of the goals for the transportation program resulted in the following goal statements:

The goal of LCAAA's transportation program is to:

- Provide transportation services for basic mobility to reach medical services, essential services, and essential shopping.

- Transport as many persons as possible, given the available resources (vehicles, driver hours, etc.) and the rural and small town nature of the service area.

- Provide service safely and dependably, while providing users with a sense of community by personal and friendly service.

In order to address these goals, current objectives include:

1. Providing transit service for the general public in areas where the population size and density allows service to be provided efficiently and effectively.

2. Recovering a portion of the costs by charging public users a fare for utilizing the service that reflects that they place a value on the ride, and makes a contribution towards the operating cost.

3. Providing adequate service levels in these areas to allow trips to be made within an hour of the requested times based on an advance reservation made the previous day.

4. Providing service on days of the week and over a span of hours that will allow riders full access to medical services, essential shopping, and other essential services.

5. Providing demand-responsive service for the elderly and disabled human service client population throughout the LCAAA service area, with capacity appropriate to the demand generated by the available funding sources.

6. Providing enough capacity that no users are required to stand while on the bus.

7. Providing accessible service that is reliable and safe through the continuous (daily cycling) checking of lifts, and training of operators to proficiency in the use of the equipment, tie-downs, and passenger assistance.

8. Ensuring that all service is provided in full compliance with agency, local, state, and federal requirements regarding safety, financial oversight, and program compliance.

9. Managing all transportation programs to ensure that the combination of user fees (fares and human service contract income), local match, and grant funding covers all costs.

Based on the operations to date of LAB and HART, proposed efficiency and effectiveness standards for the general public service are:

- Efficiency:
  - Cost per mile: Under $2.50
  - Cost per hour: Under $35.00

- Effectiveness:
  - Boardings per mile: .18
  - Boardings per hour: 2.5

- Combined Measures:
  - Cost per trip: Under $15
  - Net Cost per trip: Under $13.50

Standards for services funded by human service agencies are linked to the particular program eligibility requirements, client services provided, and funding amounts and restrictions. In addition to the proposed performance standards presented above, it is recommended that LCAAA develop objectives addressing safety and security. A recommended safety standard could be:

- No fatalities
- No more than .1 Reportable Incidents per 100,000 vehicle miles[1]

A recommended security standard could call for:

- No security incidents or losses due to vandalism
- Maintaining a record of incidents, vandalism losses, etc.

It should be noted that the standards of the state aging program are actually program compliance requirements, and to a large degree they parallel the federal requirements that are placed on LCAAA by virtue of its use of Sections 5310 and 5311 funding. Rather than reiterate all of these requirements, we have included meeting them as one of the objectives listed above.

[1] This standard is based on the national rate as reported in the FTA National Transit Database (NTD) Rural Transit reports. In the NTD, a Reportable Incident is defined as:

A safety or security incident occurring on transit property or otherwise affecting revenue service that results in one or more of the following conditions:
- A fatality confirmed within 30 days of the incident
- An injury requiring immediate medical attention away from the scene for one or more persons
- Property damage equal to or exceeding $25,000
- An evacuation for life safety reasons; or
- A mainline derailment

Currently the rural reporting for NTD is done by DRPT, which is why they collect certain data elements from the individual rural systems like LCAAA.

PROCEDURES FOR UPDATING GOALS AND OBJECTIVES

LCAAA has an Advisory Council composed of local officials, clients, and other community members representing the jurisdictions of the LCAAA service area and the population using LCAAA services. This Advisory Council reviews the agency's annual plan for senior services, and provides input to the Board of Directors regarding that plan. It is recommended that a Transportation Subcommittee of the Advisory Council be formed, possibly adding members to represent the jurisdictions providing funding for LCAAA transportation services, and the jurisdictions that might potentially fund new services. This Transportation Subcommittee could meet as often as needed, but it would be charged with reviewing the goals and objectives on an annual basis, updating them as needed. Updates could be based on changes in mission, actual performance as compared to the objectives, or changes in available resources. The Transportation Subcommittee would also be charged with reviewing the plans contained in the TDP on an annual basis, updating them to reflect any changes in needs or available resources. These changes would be recommended to the Board of Directors, who could then officially update the TDP. Information on changes would be provided to DRPT ahead of the annual grant application cycle, so that the requests in the grant would be supported by the updated TDP.

Chapter 3

Service and System Evaluation and Transit Needs Analysis

SERVICE AND SYSTEM EVALUATION

The two general public services, LAB and HART, provide demand-responsive service within the town limits of their defined service areas. Users must call for a reservation 24 hours in advance, though efforts are made to provide same-day service if possible if a customer requests or needs it. There is no weekend service, and weekday service hours are from 8:15 a.m. to 4:30 p.m. Two vehicles are available for each system; one is a newer primary vehicle, and one is an older vehicle available for peak demand or for backup. The limited service hours do not lend themselves to providing most employment trips, which would require a longer span of service.

The human service transportation program capacity is geared to the client transportation loads that are expected, given the primary program demand (congregate meals, medical trips).

Operating Budgets

Table 3-1 presents operating budget data, including funding sources, for the LAB public service. This information is compiled from the DRPT On-Line Grant Administration (OLGA) data. The table presents the actual costs and funding for FY10 service, which is now closed out, and the projected FY 2012 budget included in the LCAAA application to DRPT. Table 3-2 presents similar information for HART. In both cases it should be noted that KFH has calculated estimated state funding for FY 2012 based on the percentage funded by the state in FY 2010. DRPT develops each system's state operating amount based on data from two years prior to the current application. State operating funds are only available to fund a portion of fuel, tires, and maintenance and parts expenses; and non-salary/non-fringe administrative expenses.

Table 3-1: LAB (Lake Country Area Agency on Aging) Operating Budget
FY 2010 Actuals and FY 2012 Budget
(from DRPT FY 2012 Grant Application)

Expenses	Actual FY 2010	Budgeted FY 2012
Salaries and Wages	$30,929	$35,869
Fringe Benefits	$6,636	$5,705
Education & Training	$91	$345
Cleaning Supplies	$0	$156
Education & First Aid Supplies	$0	$100
Motor Fuels and Lubricants	$9,366	$12,629
Tires and Tubes	$0	$2,278
Parts	$0	$2,518
Supplies and Materials (Other)	$14	$0
Travel	$0	$2,000
Communication Services	$363	$363
Utilities	$0	$1,350
Printing and Reproduction	$0	$160
Contracted Repair and Maintenance	$0	$4,125
Advertising and Promotion Media	$397	$2,500
Drug Testing Supplies	$0	$324
Services and Maintenance Contracts	$0	$32
Insurance and Bonding	$1,995	$2,156
Professional Services	$503	$503
Fixed Charges (Other)	$250	$125
	$50,544	$73,238
Revenue--Fares, Advertising, etc.	$7,354	$7,354
Net Operating Deficit	$43,190	$65,884
Funding:		
FTA Section 5311	$21,595	$32,942
State Operating Assistance*	$8,436	$12,224
Local Operating Match	$13,159	$20,718
Total Operating Revenues:	$50,544	$73,238

*Varies from year-to-year, calculated from FY10 as 16.7%.

Source: Compiled by KFH Group from OLGA Data provided by DRPT.

Table 3-2: HART (Lake Country Area Agency on Aging) Operating Budget: FY 2010 Actuals and FY 2012 Budget (from DRPT FY 2012 Grant Application)

Expenses	Actual FY 2010	Budgeted FY 2012
Salaries and Wages	$27,534	$33,778
Fringe Benefits	$3,821	$6,076
Education & Training	$182	$345
Cleaning Supplies	$0	$156
Education & First Aid Supplies	$0	$100
Motor Fuels and Lubricants	$11,944	$14,216
Tires and Tubes	$0	$1,738
Parts	$0	$2,518
Supplies and Materials (Other)	$13	$0
Travel	$0	$2,000
Communication Services	$1,260	$1,320
Utilities	$2,130	$2,130
Printing and Reproduction	$0	$160
Contracted Repair and Maintenance	$0	$4,125
Advertising and Promotion Media	$527	$2,500
Drug Testing Supplies	$0	$324
Rental of Real Property	$6,600	$6,600
Services and Maintenance Contracts	$0	$32
Insurance and Bonding	$1,973	$2,156
Professional Services	$502	$502
Total Operating Expenses	$56,486	$80,776
Revenue -- Fares, Advertising, etc.	$7,896	$8,520
Net Operating Deficit	$48,590	$72,256
Funding:		
FTA Section 5311	$24,295	$36,128
State Operating Assistance*	$9,428	$13,482
Local Operating Match	$14,867	$22,646
Total Operating Revenues:	$56,486	$80,776

*Varies from year-to-year, calculated from FY10 as 16.7%.

Source: Compiled by KFH Group from OLGA Data provided by DRPT.

Table 3-3 presents a summary of operating expenses for the LCAAA Section 5310 program, based on data provided to OLGA. Section 5310 provides only vehicles for this program, with no operating or administrative funding provided from state or federal transit programs. Therefore, LCAAA is funding these expenses entirely with Title III Older Americans Act funds, revenues from the Medicaid program, and local funding.

Table 3-3
LCAAA Section 5310 Operating Budget

Expenses	
Labor	$244,431
Fringe Benefits	$18,805
Maintenance	$94,197
Vehicle Insurance	$25,139
Other Expenses (1)	$20,899
Total Operating Expenses	$403,471

(1) Includes Police/Credit Checks, Communications, Travel, Advertising, Professional Services.

Source: Compiled by KFH Group from DRPT OLGA Section 5310 Application for FY 2012.

Operational Assessment

Table 3-4 presents operating and revenue data for the previous five years for the LAB service, and for the previous four years for HART. Table 3-5 presents calculated performance measures. As can be seen, LAB ridership was higher in the first three years shown, declining in steps to the current level in 2008. The amount of service declined somewhat from 2005 to 2007. Unit costs increased gradually up through 2009, rising from $22.44 per hour up to $27.77, and then declining sharply in 2010 to $20.85. These trends are reflected in the operating costs.

HART ridership increased for the first two years, and then declined back to the level of the initial year. The amount of service provided was higher in the two years of higher ridership, but it may be that the additional miles were generated by the additional ridership. Operating cost trends paralleled those of LAB, with increases over the first three years and then a decrease in 2010.

Tables 3-6 and 3-7 present more detailed data by month for LAB and HART, respectively for FY 2011. These tables include calculated performance measures for boardings per hour and per mile. As can be seen, the productivity of these two services has continued at acceptable levels for public demand-response service. If current trends continue, both services will see an overall increase in boardings per hour.

Table 3-4: Operating Data and Revenues for Lake Country AAA Transportation Services

	Fiscal Year					
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Lake Area Bus (LAB)						
Systemwide Operating Data						
Passenger Trips	9,112	7,228	6,105	5,177	5,172	5,130
Vehicle Revenue Miles	27,159	24,086	23,317	22,081	21,377	20,995
Vehicle Revenue Hours	1,992	2,048	1,976	1,989	2071*	2071*
Systemwide Operating Revenues						
Fare Revenue	$9,026	$8,514	$9,287	$7,762	$7,851	$7,354
Contract Revenue	$0	$0	$0	$0	$0	$0
Federal Funding	$0	$22,980	$27,154	$27,684	$28,755	$24,527
State Funding	$0	$11,316	$9,712	$10,279	$12,457	$8,435
Local Funding	$0	$11,664	$17,442	$17,405	$16,298	$10,228
Other Revenue	$0	$0	$0	$0	$0	$0
Total Operating Revenues	$9,026	$54,474	$63,595	$63,130	$65,361	$50,544

	Fiscal Year					
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Halifax Area Rural Transportation (HART)						
Systemwide Operating Data						
Passenger Trips	-	-	5,288	6,281	5,822	5,484
Vehicle Revenue Miles	-	-	25,293	30,201	28,830	27,619
Vehicle Revenue Hours	-	-	1,976	1,961	1,934	2071*
Systemwide Operating Revenues						
Fare Revenue	-	-	$6,453	$8,618	$8,520	$7,896
Contract Revenue	-	-	$0	$0	$0	$0
Federal Funding	-	-	$0	$30,968	$32,826	$27,572
State Funding	-	-	$53,022	$12,643	$12,197	$9,428
Local Funding	-	-	$2,791	$18,325	$20,629	$11,590
Other Revenue	-	-	$0	$0	$0	$0
Total Operating Revenues	-	-	$62,266	$70,554	$74,172	$56,486

Source: Virginia Transit Performance Report FY 2004-FY 2008.

*Estimated annual revenue hours based on 8.25 hours per weekday.

Table 3-5: Performance Data for Lake Country Transportation Services

	Fiscal Year					
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Lake Area Bus						
Systemwide Performance Data						
Passenger Trips per Hour	4.57	3.53	3.09	2.60	2.50	2.48
Passenger Trips per Mile	0.34	0.30	0.26	0.23	0.24	0.24
Operating Cost per Hour	N/A	$22.44	$27.48	$27.84	$27.77	$20.85
Operating Cost per Mile	N/A	$1.91	$2.33	$2.51	$2.69	$2.06

	Fiscal Year					
	2005	**2006**	**2007**	**2008**	**2009**	**2010**
Halifax Area Rural Transportation						
Systemwide Performance Data						
Passenger Trips per Hour	-	-	2.68	3.20	3.01	2.65
Passenger Trips per Mile	-	-	0.21	0.21	0.20	0.20
Operating Cost per Hour	-	-	$28.25	$31.58	$33.95	$23.46
Operating Cost per Mile	-	-	$2.21	$2.05	$2.28	$1.76

Table 3-6: FY 2011 Lake Area Bus Monthly Ridership Totals

Month & Year	Adult	Senior	Child	Disabled	Infant	Total Riders	Money	Miles Traveled	Revenue Hours	Boardings per Mile	Boardings Per Hour	Fare per Passenger
October	339	192	4	13	22	570	$836.75	2,084	173.25	0.27	3.29	$1.47
November	314	175	17	2	15	523	$771.90	1,944	156.75	0.27	3.34	$1.48
December	339	157	14	7	13	530	$789.31	1,858	173.25	0.29	3.06	$1.49
January	264	173	7	4	2	450	$674.40	1,791	156.75	0.25	2.87	$1.50
February	322	186	21	6		535	$815.25	2,058	156.75	0.26	3.41	$1.52
March	309	234	12	9		564	$854.56	2,192	189.75	0.26	2.97	$1.52
April	279	244	23	2	1	549	$840.96	2,074	165	0.26	3.33	$1.53
May	344	295	20	7	11	677	$1,011.24	2,421	173.25	0.28	3.91	$1.49
June	317	265	33	11	4	630	$947.15	2,278	181.5	0.28	3.47	$1.50
July	270	217	8	19		514	$770.92	1,988	165	0.26	3.12	$1.50
Totals	3,097	2,138	159	80	68	5,542	$8,312.44	20,688	1691.25	0.27	3.28	$1.50

Source: Lake Country Area Agency on Aging, compiled by KFH Group.

Note: Data for August and September is not yet available.

Table 3-7: FY 2011 Halifax Area Rural Transportation -- Monthly Report

Month & Year	Adult	Senior	Child	Disabled	Infant	Total Riders	Money	Miles Traveled	Revenue Hours	Boardings Per Hour	Boardings Per Mile	Revenue per Passenger
October-10	214	240	17		4	475	$714.16	2,438	173.25	2.74	0.19	$1.50
November-10	221	254		2		477	$740.16	2,220	156.75	3.04	0.21	$1.55
December-10	253	273	9	8	6	549	$830.74	2,537	173.25	3.17	0.22	$1.51
January-10	229	261	10	10	2	512	$799.35	2,309	156.75	3.27	0.22	$1.56
February-10	288	285	6	6	8	593	$914.25	2,565	156.75	3.78	0.23	$1.54
March-10	350	325	6	4	11	696	$1,068.40	3,200	189.75	3.67	0.22	$1.54
April-10	308	249	4		11	572	$870.24	2,625	165	3.47	0.22	$1.52
May-10	280	262	7		7	556	$837.05	2,871	173.25	3.21	0.19	$1.51
	2,143	2,149	59	30	49	4,430	$6,774.35	20,765	1344.75	3.29	0.21	$1.53

Note: Data for June through September is not yet available.

Comparable data is not yet available for the human service transportation, though LCAAA did provide 20,457 human service trips in 2009 (of which 4,723 were to congregate meal sites), and 12,699 human service trips in 2010 (of which 4,294 were to congregate meal sites). The human service totals include Medicaid trips.

If the proposed standards presented in Chapter 2 are adopted, both LAB and HART services currently meet all of the proposed performance standards.

Peer Comparison

While it is most valuable for a transit system to monitor its performance over time, it is also important to review operating statistics for transit programs that could be considered "peers," in terms of location, service area characteristics, or size. Fiscal Year 2008 operating statistics on peer systems are available from the *Virginia Transit Performance Report.* However, direct comparisons are complicated by the differences in the services provided and the roles the various transit systems play in their communities.

The available data from the DRPT report is for LAB and HART, which are demand-responsive services that operate within the Town limits of their service areas—they are not countywide. Their trips will be shorter, and the density of the service area will be higher than for a countywide or regional service. At the same time, the general public nature of these operations means that the statistics are primarily individual trips rather than deviated routes that pick up a subscription list of riders on a regular basis. "One-on-one" demand-responsive service will be less productive than service with a large component of trips that can be grouped on the same bus headed for a common destination. LCAAA provides such services, but the ridership, miles, and hours are not included in the LAB and HART statistics, but rather in the human service program statistics. To actually compare services it would be necessary to disaggregate the system statistics included in the Virginia report, comparing, for example, the Blackstone Area Bus (BABS) Dinwiddie town service to LAB and HART, rather than all of BABS to only a portion of LCAAA.

However, to provide some benchmark for consideration of the performance of LAB and HART, data has been compiled for the following five transit systems throughout Virginia for comparison to LCAAA's general public LAB and HART services:

- Blackstone Area Bus
- Farmville Area Bus
- Graham Transit – Town of Bluefield, Virginia
- Greene County Transit

- Pulaski Area Transit

The results of this peer review are presented in Table 3-8. Since most of the systems follow deviated fixed routes rather than providing demand-response service, the peers are not identical to LAB or HART. However, all operate in relatively rural areas of the state, have 15 or less active vehicles, and serve a population of no more than 50,000 people.

A further review of the peer data indicates:

- LAB and HART provide the fewest passenger trips of this peer group, and they operate the fewest revenue hours.

- LAB and HART have somewhat lower operating costs per hour ($31.74 and $35.98) than the average for all the peer systems ($36.47). This may reflect smaller vehicles, or that some of the administrative costs are spread over the larger human services transportation program also operated by the agency.

- At 2.6 and 3.2 trips per hour, LAB and HART boardings per hour statistics are lower than the mean of 5.32. However, as noted in the discussion above, LAB and HART are completely demand-responsive, whereas other operations cited are route-deviation, or include subscription services.

- For trips per mile, LAB and HART are only slightly lower than the mean, very similar to both BABS and Greene County Transit. This data may reflect that the LAB and HART trip lengths are likely to be shorter, because they only operate within the Town limits of their service areas.

The overall evaluation reflects the fact that LAB and HART operate efficiently when compared to peer systems in Virginia, with relatively low costs, and that ridership is comparable to many of the rural/small town systems. Many of the small town systems have experienced a growth in ridership over time, as have LAB and HART, and there is potential for continued growth in ridership as the public realizes that these services are open to anyone who pays the fare. The somewhat higher ridership experienced by the route-deviation systems suggests that this service type may be a potential model for LAB and HART as demand grows to a point where pure-demand-response service requires additional vehicles and drivers. Rather than adding a second vehicle and driver when demand increases to 3-4 boardings per hour (which is likely to mean that some trip requests have to be shifted to alternate times), a change to route-deviation service could allow the same single vehicle to serve a higher number of trips.

Table 3-8: FY 2008 Peer Data

	LAB	HART	Blackstone Area Bus	Farmville Area Bus	Town of Bluefield Graham Transit	Greene County Transit	Pulaski Area Transit	*Mean*
Performance Measure								
Service Type	Demand-Response	Demand-Response	Deviated Fixed-Route	Deviated Fixed-Route	Deviated Fixed-Route	Demand-Response	Deviated Fixed-Route	
Service Area Population	5,511	9,891	6,000	7,372	6,000	17,500	49,000	***14,468***
Fleet Size	2	2	8	14	4	15	9	***8***
Passenger Trips	5,177	6,281	17,744	114,964	40,754	52,676	55,384	***41,854***
Revenue Hours	1,989	1,961	4,440	11,364	7,240	10,998	8,060	***6,579***
Trips per Hour	2.60	3.20	4.00	10.12	5.63	4.79	6.87	***5.32***
Trips per Mile	0.23	0.21	0.24	0.50	0.31	0.21	0.62	***0.33***
Operating Cost per Hour	31.74	35.98	29.54	49.97	29.06	42.94	36.05	***36.47***
Cost per Mile	2.86	2.34	1.75	2.46	1.59	1.92	3.26	***2.31***
Cost per Trip	12.19	11.23	7.39	4.94	5.16	8.97	5.25	***8.31***

Source: Virginia Transit Performance Report FY 2004-2008. Data from FY 2008. Notes: LAB is incorrectly listed as "LCAAA" and HART is listed as "LAB/HART" in source document.

- Operating Data and Performance Indicators from "Public Transportation Fixed Route, Route Deviation, and Demand-Response Services" category.
- Operating Expenses and Fare Revenue are systemwide.

Onboard Rider and General Public Surveys

To supplement the previous subsections, this evaluation of the LCAAA transportation system and services also includes both an onboard rider and a general public survey. The rider survey provides insight into the travel behavior, trip purpose, level of satisfaction, and potential improvements requested by riders of the bus system. As a complement to the rider survey, the general public survey attempted to gather knowledge from Lake Country residents concerning their typical trip purpose and regularity, service awareness, and need for current or potential services offered by LCAAA. An analysis of the results from these separate surveys may reveal existing or perceived gaps in service as well as suggestions from the public that the agency may take note of in order to improve service quality or ridership.

Onboard Rider Survey

Results from the onboard survey of LCAAA bus riders illustrate an isolated base with limited mobility options, a need for transportation to medical services, and an overall positive outlook toward the transportation services in Lake Country. Of the 106 onboard rider surveys collected by LCAAA, most respondents stated that they reside in the communities of South Hill, Clarksville, and Lawrenceville. Of these survey respondents, nearly two-thirds (62.86%) of the riders reported using the transportation services offered by LCAAA for their current trip, while over one-quarter of those surveyed (27.62%) were utilizing LAB and less than one-tenth (9.52%) of riders utilizing HART's transportation service. In terms of purpose for the surveyed trip, nearly half (45.71%) of the riders stated their trip purpose as being a ride to the senior center, while 30.48% of those surveyed noted their trip purpose as being medically-related. As for frequency of transit service use, the vast majority of surveyed riders (87.38%) stated they use LCAAA services at least once a week with the most popular response being between two and three times per week.

The onboard survey also inquired riders of the LCAAA system to detail information about their present household size and access to personal modes of travel and internet service, as well as determine the level and source of awareness concerning the transportation services. As stated, the survey responses illustrated an isolated base, as the majority of surveyed riders (52.48%) stated that they were the sole member of their household, while one-quarter (25.74%) stated they had one additional household member. Moreover, over three-fifths of respondents (62.50%) noted having access to zero vehicles in their household and only 13.83% of those surveyed stated that a vehicle was available to them at the time the survey was conducted. As for gaining awareness about the transportation services offered by LCAAA, nearly one-quarter of respondents stated they found out about the services through a senior center staff member, while less than five percent (3.03%) discovered the service through the agency's website. This latter statistic mirrors the low accessibility to the Internet reported by survey

respondents. In regard to use of the agency's transportation services, over half of those surveyed (53.00%) stated that they have been using the service for over two years.

Finally, the onboard survey also sought to measure the level of contentment experienced by riders of the system and determine what, if any, suggestions they may offer LCAAA staff in regards to improving their transportation services. Overall, survey participants detailed a high level of satisfaction with Lake Country transportation services. All surveyed categories had well over half of the respondents state that they were very satisfied with services in the particular area of question. In fact, only the categories related to service hours and cost of fare had over 2% of those surveyed state an unsatisfactory present condition. In terms of coverage, over three-quarters (78.72%) of survey participants stated there were no additional places necessary for service. However, there were other improvements requested by those surveyed, including: earlier morning service (45.95%), more flexibility in scheduling trips (35.14%), and the introduction of Saturday services (33.78%). Moreover, the least popular facet of the LCAAA transportation services noted in the survey responses reflected the absence of weekend transportation services, which was followed by the absence of later service in the afternoon. In contrast, the most favorable aspect of the transportation services is the friendliness of the drivers, followed by the punctuality of the transportation service and then the convenience of the service. A complete breakdown of the onboard rider survey is summarized in Table 3-9.

General Public Survey

Whereas the onboard rider survey results highlight the characteristics and outlook of current users of the transportation system, the general public survey's impetus is to collect information that may allow LCAAA to attract new users to their transportation system. The typical mode choice of respondents to the public survey was overwhelmingly the private automobile, with nearly three-quarters of respondents (72.03%) stating they are typically driven by a family member or friend to an appointment and an additional one-tenth (10.17%) of respondents stating they often drive themselves for such travel. While the majority of general public respondents claim they are presently aware of the transportation services provided by LCAAA, less than one-tenth (8.49%) of respondents state ever using any of the services. When asked to indicate why they choose not to use the transportation services offered by LCAAA, the most popular responses highlighted a lack of service available at their point of origin and a personal mobility limitation that makes use of a van or bus difficult. However, nearly one-quarter (22.22%) of respondents did state that they were unaware of whether the service is available or accessible to them. This latter finding may indicate an opportunity for LCAAA, as many residents are aware of the LCAAA services, but unaware of the service area. This is important because over two-thirds (69.90%) of general public respondents stated they would use regional public transportation

Table 3-9: Lake Country Area Agency on Aging (LCAAA) On-Board Rider Survey Summary

Q1: In what city, town, or community do you live?

#1:	South Hill
#2:	Clarksville
#3:	Lawrenceville

Q2: What is the purpose of your ride today?

Work:	7.62%	Gov't Service Agency:	0.00%
Shopping:	12.38%	Errands/Personal Business:	5.71%
School:	0.00%	Senior Center:	45.71%
Social/Recreation:	19.05%	Senior Meal Site:	19.05%
Medical:	30.48%	Other:	2.86%

Q3: On your trip today, which service did you ride?

Lake Area Bus:	27.62%
Halifax Area Rural Transit:	9.52%
Lake Country Area Agency on Aging:	62.86%

Q4: How often do you use the LCAAA transit services?

4 times per week or more:	18.45%	2-3 times per month:	3.88%
2-3 times per week:	34.95%	Once a month:	1.94%
Once a week:	33.98%	Less than once a month:	6.80%

Q5: How did you find out about the LCAAA transit services?

Not sure, have ridden for a long time:	14.14%
Asked someone who uses the service:	15.15%
LCAAA website:	3.03%
Senior center staff:	24.24%
Other agency staff:	6.06%
Brochure:	4.04%
Asked driver:	4.04%
Telephoned LCAAA:	6.06%
Other:	23.23%

Q6: How long have you been using the LCAAA transportation services?

Six months or less:	17.00%
Between six months and one year:	10.00%
About one year:	5.00%
Between one and two years:	15.00%
Between two and five years:	21.00%
More than five years:	32.00%

Q7: Including yourself, how many people live in your home?

One:	52.48%	Four:	4.95%
Two:	25.74%	Five or more:	4.95%
Three:	11.88%		

Q8: How many vehicles (cars, trucks, or motorcycles) are available in the household where you live?

Zero:	62.50%	Three:	1.04%
One:	30.21%	Four or more:	1.04%
Two:	5.21%		

Q9: Was a car available today for this trip?

Yes:	13.83%	No:	86.17%

Q10: Do you have a driver's license?

Yes:	30.69%	No:	69.31%

Table 3-9: Lake Country Area Agency on Aging (LCAAA) On-Board Rider Survey Summary

Q11: Do you have internet access?

Yes:	15.96%	No:	84.04%

Q12: Please rate your satisfaction with Lake Country transportation services in the following areas:

	VS	S	U	VU
Trip scheduling process:	71.43%	27.55%	0.00%	1.02%
Telephone customer service:	63.86%	34.94%	1.20%	0.00%
On-time performance:	63.86%	34.94%	1.20%	0.00%
Days of service:	92.16%	5.88%	1.96%	0.00%
Hours of service:	70.73%	25.61%	3.66%	0.00%
Cost of the fare:	73.17%	24.39%	2.44%	0.00%
Cleanliness of the vehicles:	73.63%	26.37%	0.00%	0.00%
Driver courtesy:	82.02%	17.98%	0.00%	0.00%
Information Availability:	73.86%	26.14%	0.00%	0.00%
Safety and Security:	75.82%	24.18%	0.00%	0.00%
Usefulness of website:	65.00%	35.00%	0.00%	0.00%

Q13: Are there places in the regionwhere you would like to go on a regular basis, but you cannot get to because there is not a public transportation service available for the trip?

Yes:	21.28%	No:	78.72%

If yes, what were the three most popular responses:

#1:	South Boston
#2:	Clarksville
#3:	Boydton

Q14: If Lake Country transportation services were to make service improvements, please indicate which ones would be the most important to you.

Service available earlier in the morning:	45.95%
Service available later in the afternoon:	27.03%
More flexibility in scheduling trips:	35.14%
Regularly scheduled service along US 58 corridor:	14.86%
General public service in Halifax County:	4.05%
General public service in Mecklenburg County:	2.70%
General public service in Brunswick County:	13.51%
Saturday services:	33.78%
Sunday services:	24.32%

Q15: What do you like best about LCAAA transportation services?

#1:	Friendliness of drivers
#2:	Punctuality of transportation services
#3:	Convenience of transportation services

Q16: What do you like least about LCAAA transportation services?

#1:	Absence of weekend transportation services
#2:	Absence of services later in the afternoon
#3:	Route length is too long

services if they met their specific travel needs, and over half (56.38%) stated there is a need for additional or improved public transportation in the region.

In terms of implementing new public transportation services, the general public survey results highlighted a desire to see additional or improved services in Mecklenburg County (34.92%) and Halifax County (31.75%), which reflects the most popular residences of survey respondents: South Hill, Clarksville, Chase City, and South Boston. When asked how much they would pay to ride public transportation services in Lake Country, the majority of general public survey respondents stated two dollars or less (51.35%) for shorter trips and between five dollars and 20 dollars (52.78%) for longer trips. As for preferred delivery of the transportation services, the majority of respondents to the public survey stated they would call a day or two ahead in order to request a ride (76.19%) and use the service less than once per week (57.63%). Further, those who responded to the survey overwhelmingly stated the late morning to early afternoon slot as being the most likely time they would utilize LCAAA's transportation service (62.64%).

Finally, the survey also included an examination into the household size, individual access to personal modes of travel and internet service, and other characteristics that may assist LCAAA in providing an efficient transportation service to the general public. Similar to the onboard rider survey results, the majority of respondents to the public survey were the sole member of their household (72.82%). Furthermore, two-thirds of respondents (66.06%) stated as being without a driver's license, while nearly two-thirds of those surveyed (63.89%) noted that they did not have access to a private automobile. Also, over two-thirds of the surveyed public (69.00%) stated that they have a disability which prevents them from driving an automobile, while almost every respondent (97.03%) noted they did not have internet access. A complete summary of the general public survey responses may be found in Table 3-10.

Key Stakeholder Input

In addition to drawing on information from recent plans, KFH Group conducted phone interviews in an attempt to gain information from key stakeholders on the public transportation needs of the Lake Country region. The following section presents the outcomes of this component of the needs assessment and these outreach efforts.

Lake Country Area Government Officials

Overall, Lake Country Area government officials expressed satisfaction with the current LAB and HART services. Most also noted a need for expanded public transit service in the future. The Town Manager of South Hill and the Mayors of La Crosse and Brodnax were all aware of the LAB service in their towns, as was the Town Manager of Halifax, and South Boston regarding HART. All had a positive impression of the

Table 3-10: Lake Country Area Agency on Aging (LCAAA) Public Survey Summary

Q1: How do you usually get where you need to go for work, shopping, errands, or medical appointments?

I drive:	10.17%	I ride a bicycle:	0.00%
Friend/family drives me:	72.03%	I walk:	2.54%
I use public transportation:	5.08%	Other:	10.17%
I take a taxi:	0.00%		

Q2: Are you aware of the community transportation services that are provided by LCAAA?

Yes:	68.14%	No:	31.86%

Q3: Do you currently use any of the following forms of public transportation on a regular basis?

Any of the LCAAA transit services:	Yes, more than once a week:	2.83%
	Yes, less than once a week:	5.66%
	No:	91.51%
Taxis:	Yes, more than once a week:	0.00%
	Yes, less than once a week:	0.90%
	No:	99.10%
Vanpools or carpools:	Yes, more than once a week:	0.00%
	Yes, less than once a week:	1.82%
	No:	98.18%
Other:	Yes, more than once a week:	4.81%
	Yes, less than once a week:	3.85%
	No:	91.35%

Q4: If you do not use any form of public transportation, please indicate why not.

No service available near my home/work/school:	25.56%
Prefer to drive:	10.00%
Do not know if service is available/accessible:	22.22%
Have limited mobility/hard to use bus or van:	25.56%
Vans/buses are unreliable/late:	3.33%
Need car for work/school:	0.00%
Need car before/after work/school:	0.00%
Need car for emergencies/overtime:	4.44%
Van/bus is uncomfortable:	0.00%
Might not be safe/do not feel safe:	1.11%
Van/bus is expensive:	2.22%
Trip via transit takes too much time:	2.22%
Hours of operation are too limited:	0.00%
Have to wait too long for van/bus:	4.44%
Other:	33.33%

Q5: Do you think there is a need for additional or improved public transportation in the region?

Yes:	56.38%	No:	43.62%

Q6: Please select where within the region there is a need for additional or improved public transit services.

Halifax County:		31.75%
Mecklenburg County:		34.92%
Brunswick County:		7.94%
South Hill/La Crosse/Brodnax:		14.29%
South Boston/Town of Halifax:		11.11%
Lawrenceville:		0.00%
Chase City:		6.35%
South Boston and South Hill along US 58:		9.52%
Most popular additional community:	Scottsburg	1.59%

Table 3-10: Lake Country Area Agency on Aging (LCAAA) Public Survey Summary

Q7: Would you use public transportation services in the region if there was a service that met your travel needs?			
Yes:	69.90%	No:	30.10%
Q8: How much would you pay to ride public transportation for short trips within the community?			
Less than $1.00:	18.92%	Between $5.01 and $10.00:	13.51%
Between $1.00 and $2.00:	32.43%	Between $10.01 and $20.00:	5.41%
Between $2.01 and $5.00:	29.73%	More than $20.00:	0.00%
Q9: How much would you pay to ride public transportation for longer trips outside of the community?			
Less than $1.00:	5.56%	Between $5.01 and $10.00:	25.00%
Between $1.00 and $2.00:	19.44%	Between $10.01 and $20.00:	27.78%
Between $2.01 and $5.00:	19.44%	More than $20.00:	2.78%
Q10: If you were to use public transportation, which method of scheduling a ride would you prefer?			
Call a day or two ahead to request a ride from house:	76.19%		
Call the same day to request a ride from house:	19.05%		
Fixed schedule with bus stop in walking distance:	4.76%		
Q11: How many times per week would you use public transportation if it were available to you?			
Less than once per week:	57.63%	Four or more times per week:	6.78%
One to three times per week:	35.59%		
Q12: What times of the day would you be most likely to use public transportation?			
6:00am to 9:00am:	7.69%	6:00pm to 9:00pm:	2.20%
9:00am to 3:00pm:	62.64%	9:00pm to 12:00am:	2.20%
3:00pm to 6:00pm:	7.69%	12:00am to 6:00am:	1.10%
Q13: In what city, town, or community do you live?			
#1:	South Hill		
#2:	Clarksville		
#3:	Chase City, South Boston (tied)		
Q14: Do you have internet access?			
Yes:	2.97%	No:	97.03%
Q15: Do you have a disability that prevents you from driving?			
Yes:	69.00%	No:	31.00%
Q16: Including yourself, how many people live in your home?			
One:	72.82%	Four:	0.00%
Two:	23.30%	Five or more:	0.00%
Three:	3.88%		
Q17: Do you have a valid driver's license?			
Yes:	33.94%	No:	66.06%
Q18: How many working cars/trucks/SUVs/motorcycles are there in your household?			
Zero:	63.89%	Three	0.93%
One:	30.56%	Four or More:	0.00%
Two:	4.63%		

systems and felt that they are valuable services. None had received any complaints or heard of any issues or service denials from their residents, leading them to believe that LAB and HART are meeting their towns' transportation needs. In the HART service area, the Town Manager of Halifax noted that consistent semi-annual ridership and performance reports from LCAAA is one area of potential improvement. This would help ensure that HART and LAB were assessing their performance and sharing basic information with local leaders.

Another issue raised by some town officials in the LAB and HART service area was the possibility of switching back to a fixed-route or hybrid system with at least one designated and centralized bus stop. They speculated that this might help increase ridership and promote public awareness. Currently, residents may know of LAB and HART, but think they are ineligible for demand-response services. The Town Manager of Halifax also suggested offering Saturday service for residents' shopping needs, as well as adding more energy- and cost-efficient hybrid buses to the vehicle fleet.

Clarksville and Chase City in Mecklenburg County are located outside of the LAB and HART service areas. Both Town Managers noted that, to their knowledge, the towns' aging populations currently rely on family and friends for transportation and would likely use public transit if it was available. The town of Lawrenceville in Brunswick County is also outside of the LAB and HART service areas. However, the Town Manager confirmed that residents use the BABS and that Lawrenceville makes a local contribution to that system. BABS runs the Brunswick Express route south from Blackstone through Alberta and Lawrenceville Monday through Thursday from September to May and on Tuesdays and Thursdays in the summer months.

Human Service Community Input

Several organizations provide transportation and other services in Lake Country to support people with disabilities, older adults, people with lower incomes, and other populations. This includes the Southside Community Service Board and the Southside Training Employment and Placement Services (STEPS). The Southside Community Service Board has centers throughout Lake Country and uses its own vans to transport clients for outings and activities. LCAAA transports three clients five days per week to the Southside Community Service Board, and one client uses LAB to get to work five days per week.

STEPS provides work-related transportation for its clients, making approximately 1,500 trips per month on a fixed-route. The route includes stops in LCAAA's three-county area, modified periodically to accommodate the needs of new clients. STEPS' facilities are located in Farmville and Victoria, resulting in a history of cooperation with BABS. A standing agreement exists between the organizations in which STEPS can purchase BABS tokens for their clients' use. STEPS is a transportation

provider only by necessity, and the organization may be open to collaborating with LCAAA to address unmet transportation needs in their common service area.

TRANSIT NEEDS ANALYSIS

The transit needs assessment for Lake Country includes an overview of recent public transportation-related plans or studies, a review of socioeconomic characteristics, an overview of those demographic characteristics pertinent to a thorough Title VI analysis, a synopsis of land uses and trip generators, a review of the commuting patterns of residents, and any key input provided by community stakeholders.

Review of Recent Plans

This initial section of the transit needs analysis is an overview of existing planning documents and studies addressing the transportation needs of Lake Country residents. The reviewed plan(s) include those specific to public transportation, as well as those addressing more expansive land use and growth visions for the three-county study area. How these plan(s) report on matters concerning public transportation are abstracted in this subsection.

Southside Coordinated Human Service Mobility (CHSM) Plan, June 2008

The CHSM Plan established the construct for a unified comprehensive strategy toward providing public transportation to those residents most reliant upon transit services. As a result of this study, conducted by Cambridge Systematics and KFH Group, Inc., four elements were completed in order to better develop and prioritize an effective approach toward achieving a unified CHSM plan that incrementally improves the mobility of these vulnerable residents, and promotes a sustained partnership amongst interested community partners. The plan included both quantitative and qualitative analyses, as well as the formation of an inventory of potential public transportation services and resources that may assist Lake Country in attaining its defined public transportation goals. A preliminary workshop established these goals as being the achievement of a more cost-effective delivery of service, an increased capacity to serve the needs of the most vulnerable residents, an overall improvement in the quality of public transportation services, and an improvement in the dissemination of information pertaining to the available services.

While the details of the demographic analysis need not be described in this report, as the statistics will be updated to the present time, it should be noted that the following characteristics of the residential population and available land uses were mentioned.

- Lake Country's residents are generally older in age and dispersed throughout the three counties with greater densities occurring in South Boston, South Hill, and Lawrenceville.

- Lower population densities in Lake Country lead to fewer concentrations of persons deemed dependent on the services afforded by public transportation, but an analysis based upon percentage of residents in need of transit services reveals a high potential need for transit amongst Lake Country residents, especially those in Brunswick County, northern Halifax County, and Chase City.

- There are limited trip destinations within Lake Country that are intuitively clustered in the more populated communities of South Boston, South Hill, and Lawrenceville.

The results of this demographic analysis and the more qualitative analysis of conducting numerous regional workshops and stakeholder interviews led to the identification of ten strategies toward addressing unmet transportation needs. Each of the strategies contains a component that meets the funding eligibility requirements outlined by the Federal Transit Administration's Section 5310 (Elderly Individuals and Individuals with Disabilities), Section 5316 (Job Access and Reverse Commute), and Section 5317 (New Freedom) programs. The next bulleted points detail a handful of these strategies that were endorsed at the second workshop.

- Continue to support and maintain capital needs of coordinated human service/public transportation providers (Sections 5310, 5316, and 5317).

- Expand availability of demand-response and specialized transportation services to provide additional trips for older adults, people with disabilities, and people with lower incomes (Sections 5310, 5316, and 5317).

- Build coordination among existing public transportation and human service transportation providers (Sections 5316 and 5317).

- Expand outreach and information on available transportation options in the region, including the establishment of a centralized point of access (Sections 5316 and 5317).

- Establish or expand programs that train customers, human service agency staff, medical facility personnel, and others in the use of transportation services (Sections 5316, and 5317).

The 2008 CHSM plan for the Lake Country counties concluded with a discussion of a more formal adoption process that included portions of the plan being absorbed into a future Rural Long Range Plan for the Southside Planning District with the intent of complementing those regional transportation plans in Virginia's metropolitan areas.

Town of Chase City and Town of Blackstone/Fort Pickett Area Public Transit Feasibility Study, March 2010

The Town of Chase City and Town of Blackstone/Fort Pickett Area Public Transit Feasibility Study (Feasibility Study) evaluated Chase City and Blackstone/Fort Pickett individually, recommending a transit service, organizational, and financial plan for both. Conducted by HNTB, the goals and objectives for the Chase City portion of the Feasibility Study included:

- Increasing transportation choices and improving mobility;
- Offering lower cost transportation options; and
- Stimulating economic development, especially in the downtown area of Chase City.

The Feasibility Study recommended a deviated fixed-route service for Chase City, running every 45 minutes from 7:30 a.m. to 5:00 p.m. The approximately eight mile long recommended route concentrated stops primarily within the Chase City town limits. However, this alternative also included possible future expansion to Boydton, Clarksville, and Victoria, with service connections to South Hill in the longer-term. The Feasibility Study concluded that, contingent on capital and operation funding, an established provider such as LCAAA or the BABS should provide this service.

Brunswick County Comprehensive Plan, May 2007

The Brunswick County Comprehensive Plan begins with a population and demographic analysis, noting that the aging of the County's population is a "well established" trend. The County-wide Transportation section of the Plan documents the existing highway system and identifies traffic hazards and system deficiencies. Public transit is mentioned in the context of commercial bus services in Emporia, VA. Supporting special transportation services for elderly and handicapped citizens is an implementation strategy for the County's overall goal of promoting a balanced, safe, and efficient transportation system. The Plan encourages the Virginia Department of Transportation to study the feasibility of a rural ride-sharing or mass transit program as a strategy for several places including the Brodnax-US 58 West Planning Area.

Halifax County Comprehensive Plan, September 2007

Similar to Brunswick County, the Halifax County Comprehensive Plan includes County-wide and Planning Area specific goals and implementation strategies. The County-wide goal of the transportation system is to shape and serve growth areas and provide the safe and efficient movement of people and goods. As in Brunswick County, supporting special transportation services for elderly and handicapped citizens is stated as an implementation strategy. For the Urban Planning Area of the Towns of Halifax and South Boston, the Plan recommends studying the development of a biking/hiking trail or greenway system with potential for connections to other areas of the County.

Though not referenced in the Comprehensive Plan, Halifax County also has a growing Amish community. The approximately 200 person community was established in 2005 about twenty miles north of South Boston in the Nathalie area. The Amish do not own or drive their own vehicles and could potentially use HART buses for trips to businesses in Halifax and South Boston.

Mecklenburg County Comprehensive Plan, 2005 Markups on 1987 Plan

Mecklenburg County is in the process of updating its original 1987 Comprehensive Plan, which was last revised and re-adopted in 2005. The transportation section of this Plan describes highway and airport facilities and does not include language on public transit or transit-supportive development. A Comprehensive Plan Advisory Committee is guiding the update and began data collection and stakeholder discussions in summer 2011. Common themes expressed to date include economic generation and improved education.

Regional Bicycle and Pedestrian Planning

The Lake Country area counties and towns have adopted bicycle plans developed by the Southside Planning District Commission. The Halifax Bike, Pedestrian and Trails Plan (2004) and the Lake Country Bicycle, Pedestrian, and Trails Plan (2007) identify existing facilities and opportunities for network expansion. Bicycle and pedestrian facilities in the Lake Country area are primarily for recreational use, most notably the Tobacco Heritage Trail project. As a system of trails for hiking, bicycling, and horseback riding, the Tobacco Heritage Trail creates a regional network from railroad right-of-ways, new trails, and on-road routes. The project will eventually link several towns served by LCAAA. A completed Phase 1 four-mile segment currently connects the towns of La Crosse and Brodnax, with other segments under construction.

Town of Boydton Comprehensive Plan, July 2009

The Boydton Comprehensive Plan sets out the general land use goal of maintaining a compact pattern of development that protects Boydton's historic character and natural resources. Boydton completed a downtown streetscape and façade renovation project in 2005 and is now in the second phase of its revitalization efforts. Boydton's attempt to attract new businesses to the downtown could add to its stock of transit supportive land uses in the future. The Comprehensive Plan also emphasizes Boydton's equestrian legacy, in particular through the expansion of multi-use trails like the Tobacco Heritage Trail. The transportation element of the plan describes the surrounding highway system but does not reference public transit beyond noting a lack of passenger and freight rail service.

Town of Halifax Revitalization Project, 2003

The Town of Halifax undertook a downtown revitalization planning process in 2003, an effort that promotes pedestrian circulation and safety as well as transit supportive land uses. The process resulted in recommendations for streetscape enhancements including traffic calming measures on Main Street, relocation of utility poles, sidewalk repair, and installation of patterned crosswalks and pedestrian-scale lighting. Halifax is currently moving forward with a community planning and design initiative to create a public plaza and farmers' market space on a former grocery store property on South Main Street.

Town of South Boston Comprehensive Plan 2030, February 2010

The guiding policies for the transportation component of the South Boston Comprehensive Plan include facilitating multiple modes of transportation, providing linkages to neighborhoods and employment centers, and designing the transportation system to complement and enhance existing development. The Comprehensive Plan states that public transit options should be supported, noting the possibility of establishing a trolley between downtown South Boston and Halifax in the future.

South Boston is currently in the process of revising the Comprehensive Plan in order to incorporate a designated Urban Development Area (UDA) for the downtown. The Town received a grant from the Virginia Department of Transportation to fund UDA planning and implementation. Among other elements, the UDA study will identify areas for infill development and analyze a potential two-way traffic pattern along Main Street. Spanning a radius of about a half-mile from the downtown, the UDA corresponds to a portion of HART's service area.

Town of South Hill Comprehensive Plan, August 2005

The Town's transportation goals as stated in the Comprehensive Plan are as follows: improve vehicular traffic flows, improve pedestrian traffic around highly congested areas, and continue to encourage the development of public and private means of transportation. The third goal is directly related to LCAAA and LAB; the Comprehensive Plan notes that LCAAA provides demand-response service within the Town and urges continued support of "this needed transportation alternative." It also recommends that the Town encourage the development of more and better taxi services by adopting taxi operation standards. The Plan does not anticipate increased bicycle traffic and determines that bike lanes are not warranted at this time.

The Comprehensive Plan provides information on two major factors affecting land use and growth trends in South Hill: the US 58 Bypass completed in 2002 and the annexation of surrounding land from Mecklenburg County in 2001. The Plan also highlights the formation of a Downtown Revitalization Committee to implement façade and sidewalk renovations, street and parking improvements, additional green spaces, and the relocation of overhead utilities. It notes that pedestrian traffic should be considered when developing transportation strategies and identifies specific areas for pedestrian improvement.

Demographic Analysis

The following section provides an extensive overview of the demographic composition of the residents in Brunswick, Halifax, and Mecklenburg Counties. Specifically, this section of the transit needs analysis examines 20 years of trends in the general population, relative concentrations of residents and the multi-unit establishments that many residents call home, two separate indices investigating potential transit dependence characteristics within the populace, and an extraction of a few of the more important characteristics associated with this greater potential need for public transportation services.

General Population

Despite each of the three counties that compose Lake Country (Brunswick, Halifax, and Mecklenburg) having experienced overall population growth from 1990 to 2000, each of these three counties have seen their residential population decrease in the subsequent decade. The steepest decline in overall population occurred in Halifax County, where the 2009 population of 35,258 residents represented a negative 5.61% change from the 2000 population figure of 37,355. Each of the Census designated places in Halifax County experienced a decline in population in this latter time span, with the county seat, the Town of Halifax, undergoing the largest percentage decrease (-10.22%) during the first decade of the 21st century after more than doubling its 1990 population of 688 in the final decade of the 20th century. Similarly, Brunswick County also

underwent a growth in its residential population from 1990 to 2000, but experienced a decline over the following nine years of 10.09%. However, unlike the case with Halifax County, the county seat of Brunswick, the Town of Lawrenceville, experienced a 4.31% change in its population from 1,275 in 2000 to 1,330 in 2009. Unfortunately, this 2009 figure is still lower than Lawrenceville's 1990 population of 1,486 residents. Finally, Halifax County has experienced a trend in population decline similar to the other counties in Lake Country. Mecklenburg County had a slight decline in its 2009 resident population of 31,969 from its 2000 population figure of 32,380. Each of the communities within Mecklenburg separately experienced a decrease in population, with the exception of the county seat, Boydton, which had zero population change from 2000 to 2009 and the largest town in the county, South Hill, which had a positive population change of 2.54%. A detailed breakdown of these general population figures is exhibited in Table 3-11.

Further examination of past and present population statistics for Lake Country reveals the aging character within each of these three counties. Table 3-12 displays three age divisions for both the historical and present populations, as well as future population forecasts, of the three counties, which may be generalized into youth (0-19 years of age), adult (20-64 years of age, and senior adult (65 and over years of age) age brackets. While both Virginia and the counties of Lake Country may expect their overall population to become older, the percent share of senior adults in Lake Country will be significantly higher than Virginia's senior adult share of the population. As of 2009, Mecklenburg County had the highest share of senior adults (20.00%) out of the three counties. However, both Halifax County (18.86%) and Brunswick County (15.03%) have a senior adult presence within their counties that is larger than the share of senior adults for the State of Virginia (11.76%). This gap will continue for all of Lake Country over the next 10 and 20 years, as about one-quarter of the population for Halifax County (25.70%), Mecklenburg County (24.91%), and Brunswick County (23.88%) will be over the age of 65 by 2030. Additionally, the overall populace of Lake Country will actually decrease by 628 and 399 residents over the next 10 and 20 years, respectively.

Population Density

Population density often serves as an effective indicator into the types of public transit services that are most feasible within a study area. For instance, while exceptions will always exist, an area with a density of 2,000 persons per square mile will generally be able to sustain a frequent, daily fixed-route bus service. Conversely, an area with a population density below this stated threshold, but above 1,000 persons per square mile may be better suited for a demand-response or deviated fixed-route bus service. As part of the transit needs assessment for Lake Country, the block group geography determined by the United States Census Bureau was employed as a boundary for analysis. Each block group in the service area was then stratified into five separate

Table 3-11: General Population Characteristics for Lake Country

Place	1990 Population	2000 Population	2009 Population	1990-2000 Percent Change	2000-2009 Percent Change
State of Virginia	6,187,358	7,078,515	7,882,590	14.40%	11.36%
Brunswick County	15,987	18,419	17,514	15.21%	-4.91%
Alberta	337	306	285	-9.20%	-6.86%
Brodnax	388	317	285	-18.30%	-10.09%
Lawrenceville	1,486	1,275	1,330	-14.20%	4.31%
Halifax County	29,033	37,355	35,258	28.66%	-5.61%
Halifax	688	1,389	1,247	101.89%	-10.22%
Scottsburg	152	145	142	-4.61%	-2.07%
South Boston	6,997	8,491	7,805	21.35%	-8.08%
Virgilina	161	159	146	-1.24%	-8.18%
Mecklenburg County	29,241	32,380	31,969	10.73%	-1.27%
Boydton	453	454	454	0.22%	0.00%
Chase City	2,442	2,457	2,294	0.61%	-6.63%
Clarksville	1,243	1,329	1,242	6.92%	-6.55%
La Crosse	549	618	584	12.57%	-5.50%
South Hill	4,217	4,403	4,515	4.41%	2.54%
Lake Country	**74,261**	**88,154**	**84,741**	**18.71%**	**-3.87%**

Source: United States Census Bureau, American FactFinder.

Table 3-12: Historical Populations and Forecasts of Age Divisions for Lake Country

Place	1990 Population	2000 Population	2009 Population	2009 Percent	2020 Forecast	2020 Percent	2030 Forecast	2030 Percent
State of Virginia	6,187,358	7,078,515	7,721,730	-	8,917,396	-	9,825,019	-
0-19 years of age	1,704,603	1,937,086	2,067,462	26.77%	2,318,996	26.01%	2,576,773	26.23%
20-64 years of age	3,818,285	4,349,096	4,746,410	61.47%	5,212,712	58.46%	5,432,952	55.30%
65+ years of age	664,470	792,333	907,858	11.76%	1,385,688	15.54%	1,815,294	18.48%
Brunswick County	15,987	18,419	17,786	-	18,258	-	18,258	-
0-19 years of age	4,466	4,322	4,238	23.83%	3,975	21.77%	4,041	22.13%
20-64 years of age	9,230	11,418	10,875	61.14%	10,664	58.41%	9,857	53.99%
65+ years of age	2,291	2,679	2,673	15.03%	3,619	19.82%	4,360	23.88%
Halifax County	29,033	37,355	35,460	-	33,836	-	33,821	-
0-19 years of age	7,880	9,528	8,612	24.29%	8,016	23.69%	7,955	23.52%
20-64 years of age	16,373	21,454	20,162	56.86%	18,278	54.02%	17,174	50.78%
65+ years of age	4,780	6,373	6,686	18.86%	7,542	22.29%	8,692	25.70%
Mecklenburg County	29,241	32,380	31,987	-	32,511	-	32,755	-
0-19 years of age	7,559	7,651	7,019	21.94%	6,900	21.22%	6,818	20.82%
20-64 years of age	16,654	18,953	18,572	58.06%	18,685	57.47%	17,779	54.28%
65+ years of age	5,028	5,776	6,396	20.00%	6,926	21.30%	8,158	24.91%
Lake Country	**74,261**	**88,154**	**85,233**	**-**	**84,605**	**-**	**84,834**	**-**

Source: United States Census Bureau, American FactFinder for population statistics and Virginia Employment Commission for population forecasts.

categories, two of which include the aforementioned divisions, and displayed in Figure 3-1. Of the 74 block groups within the three counties of Lake Country, there are only three block groups that have the requisite density to support some level of fixed-route service, including:

- The Brunswick County block group in Lawrenceville that is bounded by Bright Leaf Road to the north, Planters Road and Governor Harrison Parkway to the east, Rocky Run to the west, and the property line of the Lawrenceville Correctional Facility to the south. This block group represents the institutionalized population of the correctional facility.

- The Halifax County block group in South Boston that is bounded by Hodges Street and Webster Street to the north, John Randolph Boulevard to the east, railroad tracks to the west, and the Dan River to the south. This block group represents the resident population of downtown South Boston.

- The Mecklenburg County block group in South Hill that is bounded by Raleigh Avenue to the north, Mecklenburg Avenue to the east, Sunset Lane to the west, and Atlantic Street to the south. This block group represents the residents of downtown South Hill.

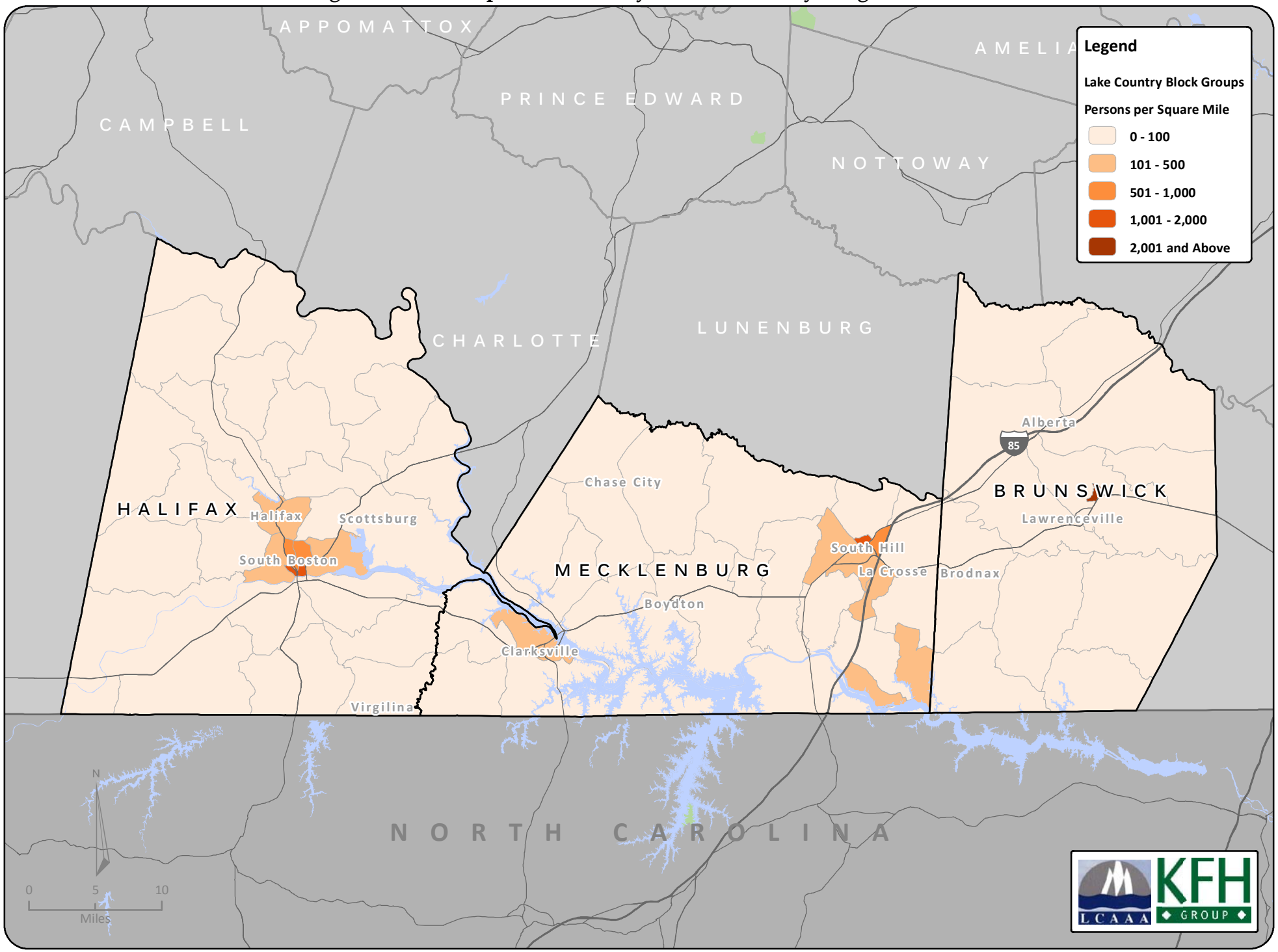
Of these three Lake Country block groups with over 1,000 persons per square mile, the only block group with a density that could support a fixed-route bus service is the block group that encompasses the Lawrenceville Correctional Facility. The institutionalized nature of the population in this block group fails to make it a viable candidate for any such service.

Transit Dependence Index

Public transportation needs are defined in part by identifying the relative size and location of those segments within the general population most likely to be dependent upon some form of public transit services. Once the location of these transit dependent populations is determined and analyzed, it becomes possible to evaluate the extent to which current services meet the needs of community residents. To identify the areas of highest transportation need, the Transit Dependence Index (TDI) was calculated for each of the block groups in the Lake Country study area.

The TDI is an aggregate measure that utilizes recent data from the American Community Survey (ACS) five-year estimates and the United State Decennial Census to display relative concentrations of transit dependent populations within a study area at the Census Block Group level. These populations include the following:

Figure 3-1: 2010 Population Density for Lake Country, Virginia



- People residing in households with no vehicle available,
- Elderly Adults,
- Youth,
- People with disabilities, and
- People residing in households with incomes below the poverty level.

The TDI also includes a population density factor. The TDI reflects relative need, or the degree to which a certain area is below or above the study area average for the various needs characteristics. A complete explanation of the methodology used to develop the TDI is provided in Appendix A.

The following is a detailed description of the location of those blocks groups in Lake Country that have a TDI classification of very high. A visual depiction of the overall TDI rankings for Lake Country may be found in Figure 3-2.

- The Mecklenburg County block group in eastern South Hill that is bounded by Mecklenburg Avenue to the north and west, Interstate 85 to the east, and Atlantic Street to the south.

- The Mecklenburg County block group in northwestern South Hill that is bounded by Binford Street and Raleigh Avenue to the north, Sunset Lane to the west, and Atlantic Street to the south.

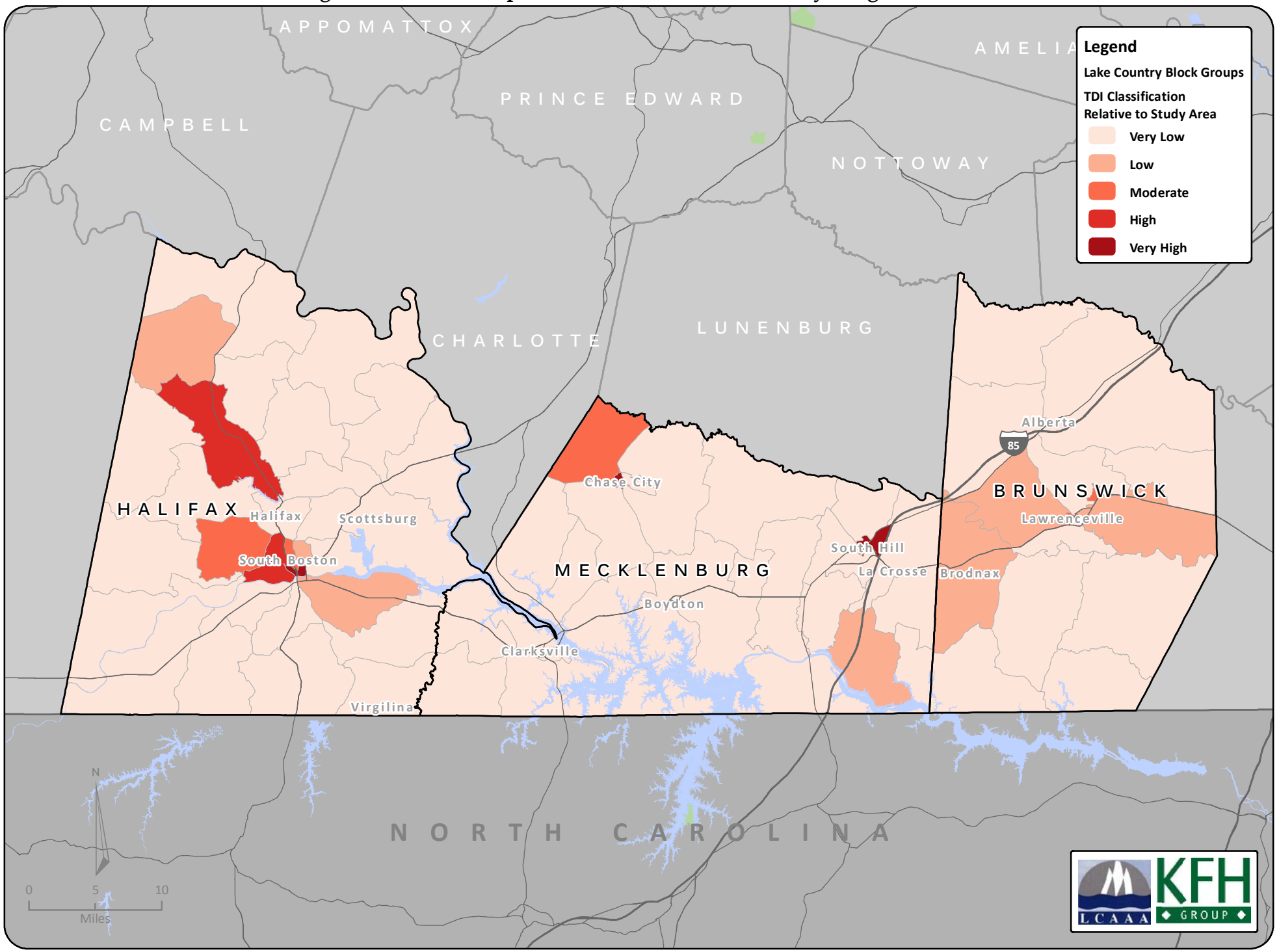
- The Mecklenburg County block group in southwestern South Hill that is bounded by Atlantic Street to the north, Opie Road and Plank Road to the west, Mecklenburg Avenue and Hill Avenue to the east, and Locust Street and Danville Street to the south.

- The Mecklenburg County block group in western Chase City that is bounded by Academy Street and Anderson Street to the north, Monroe Street and Pine Tree Lane to the west, Main Street to the east, and E Street and Railroad Avenue to the south.

- The Halifax County block group in southern South Boston that is bounded by Webster Street and Hodges Street to the north, Terry Avenue to the west, John Randolph Boulevard to the east, and Seymour Drive to the south.

Beyond these block groups that possess a very high TDI classification, there are the following block groups that have a classification of high and should also be singled out in a needs assessment.

Figure 3-2: Transit Dependence Index for Lake Country, Virginia



- The Halifax County block group in western South Boston that is bounded by Green's Folly Road to the north, River Road to the west, Halifax Road to the east, and the Dan River to the south.

- The Halifax County block group northwest of Halifax that is bounded by Bradley Creek Road to the north, Banister River and Chatham Road to the west, Terrible Creek to the east, and Banister River to the south.

Transit Dependence Index: Percentage Analysis

The Transit Dependence Index Percent (TDIP) provides a complementary analysis to the TDI measure and its reliance upon the population density factor. The TDIP measure is nearly identical to the TDI measure in every aspect except its exclusion of the persons per square mile (PD) factor. While the TDI measures the *amount of vulnerability* in comparison to the study area average, the TDIP measures the *degree of vulnerability*, or percentage of vulnerable persons or households per block group. The TDIP methodology is also presented in Appendix A.

The five-tiered categorization found in the TDI measure is also utilized for the TDIP measure and is determined by use of the same criteria. The following bulleted points represent a description of those block groups in Lake Country that have a TDIP classification of high, since there were no block groups in Lake Country that had a classification of very high. These particular block groups, along with those block groups with any one of the other four categorizations, are visually depicted by Figure 3-3.

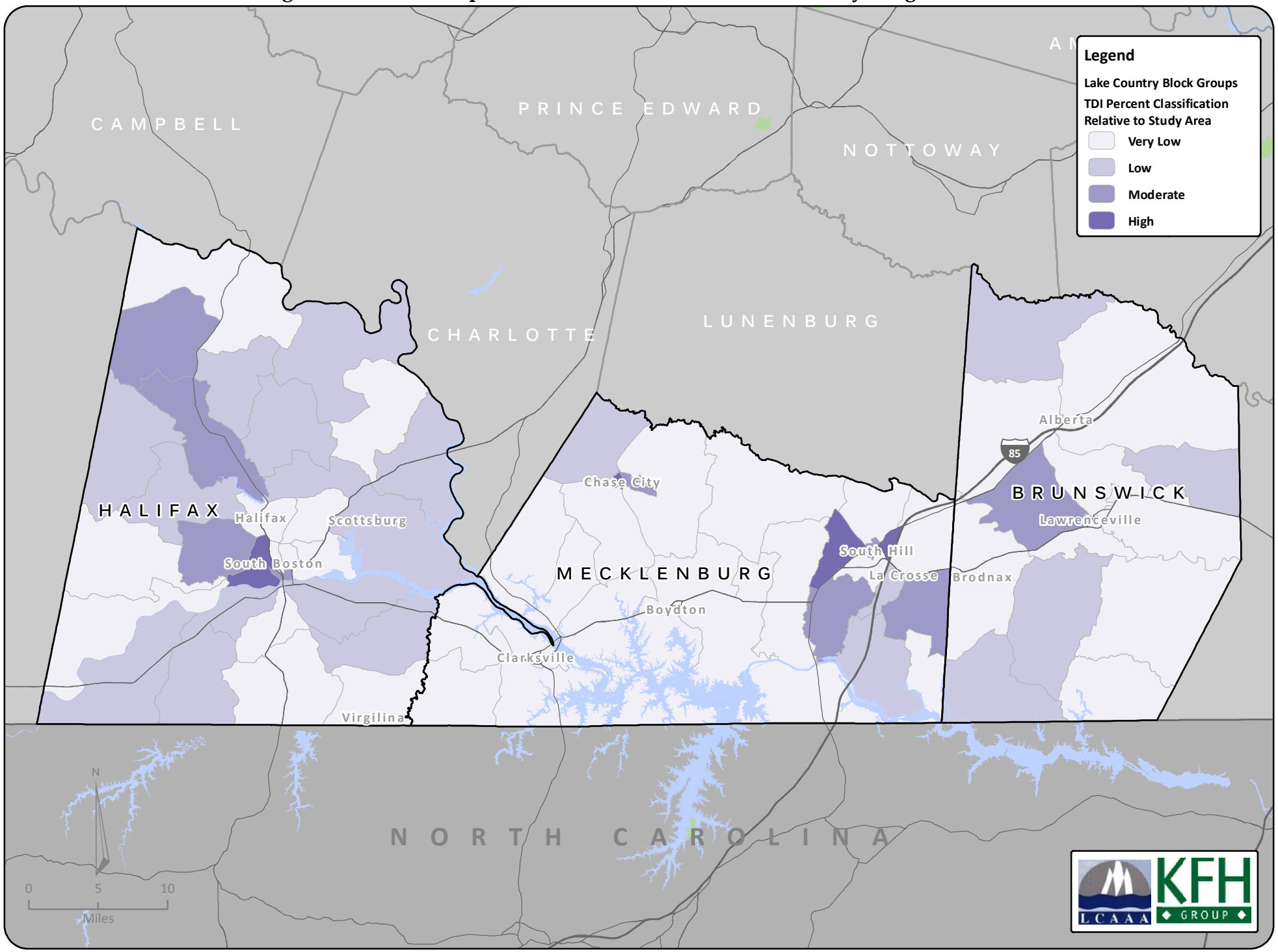
- The Halifax County block group in western South Boston that is bounded by Green's Folly Road to the north, River Road to the west, Halifax Road to the east, and the Dan River to the south.

- The Mecklenburg County block group in western Chase City that is bounded by Academy Street and Anderson Street to the north, Monroe Street and Pine Tree Lane to the west, Main Street to the east, and E Street and Railroad Avenue to the south.

- The Mecklenburg County block group in eastern South Hill that is bounded by Mecklenburg Avenue to the north and west, Interstate 85 to the east, Atlantic Street to the south.

- The Mecklenburg County block group west of South Hill that is bounded by Virginia State Road 47 to the northeast, Miles Creek to the west, and Plank Road and United States Highway One to the south east.

Figure 3-3: Transit Dependence Index Percent for Lake Country, Virginia



Autoless Households

Households without at least one personal automobile to their possession are more likely to depend on the mobility offered by public transportation than those households with access to an automobile. Although autoless households are reflected in both the TDI and TDIP measures as a vulnerable population that should be accounted for in a needs assessment, there is added importance in displaying this segment of the population separately in an area with the rural character found throughout Lake Country, where many land uses are separated by distances too far for non-motorized travel.

Figure 3-4 is a map displaying the relative number of autoless households by block group for the counties of Lake Country, while the following bulleted points provide a description of the areas with a very high relative number of autoless households.

- The Brunswick County block group west of Lawrenceville that is bounded by Boydton Plank Road to the northwest, Christanna Highway to the northeast, Governor Harrison Parkway to the southeast, and the Meherrin River to the southwest.

- The Mecklenburg County block group in eastern South Hill that is bounded by Mecklenburg Avenue to the north and west, Interstate 85 to the east, and Atlantic Street to the south.

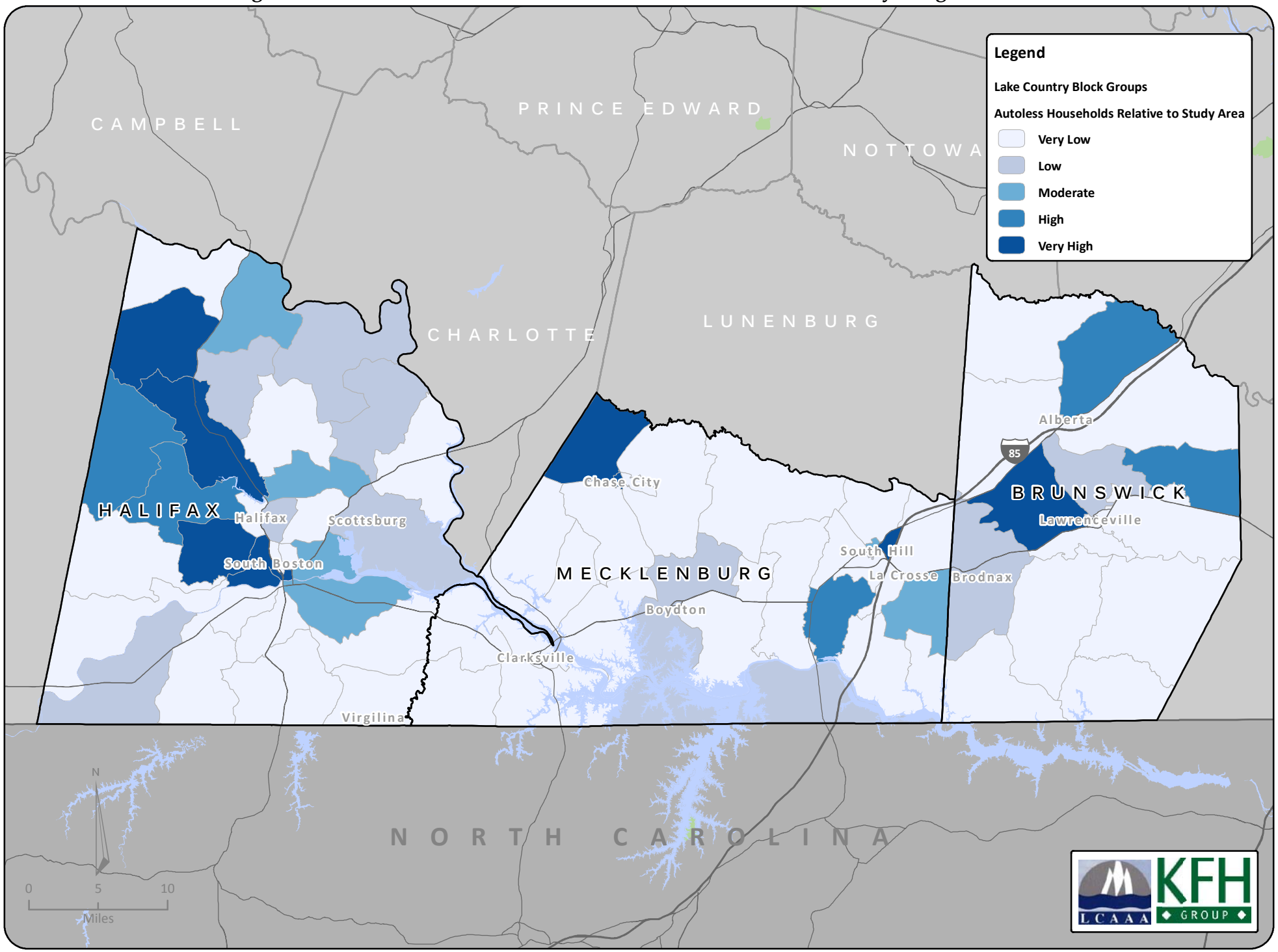
- The Mecklenburg County block group in western Chase City that is bounded by Academy Street and Anderson Street to the north, Monroe Street and Pine Tree Lane to the west, Main Street to the east, and E Street and Railroad Avenue to the south.

- The Mecklenburg County block group northwest of Chase City that is bounded by Lunenburg County to the north, Charlotte County to the west, Virginia State Route 47 and Virginia State Route 49 and to the east, and Virginia State Route 92 to the south.

- The Halifax County block group in South Boston that is bounded by Hodges Street and Webster Street to the north, John Randolph Boulevard to the east, railroad tracks to the west, and the Dan River to the south.

- The Halifax County block group in western South Boston that is bounded by Green's Folly Road to the north, River Road to the west, Halifax Road to the east, and the Dan River to the south.

Figure 3-4: Relative Number of Autoless Households in Lake Country, Virginia



- The Halifax County block group west of Halifax and South Boston that is bounded by Mountain Road to the north, High View Road and Jones Ferry Road to the west, River Road to the east, and Miry Creek to the south.

- The Halifax County block group northwest of Halifax that is bounded by Bradley Creek Road to the north, Banister River and Chatham Road to the west, Terrible Creek to the east, and Banister River to the south.

- The Halifax County block group in the northwest that is bounded by Stage Coach Road to the north, Pittsylvania County to the west, Bailey Memorial Highway to the east, and Bradley Creek Road to the south.

Senior Adult Population

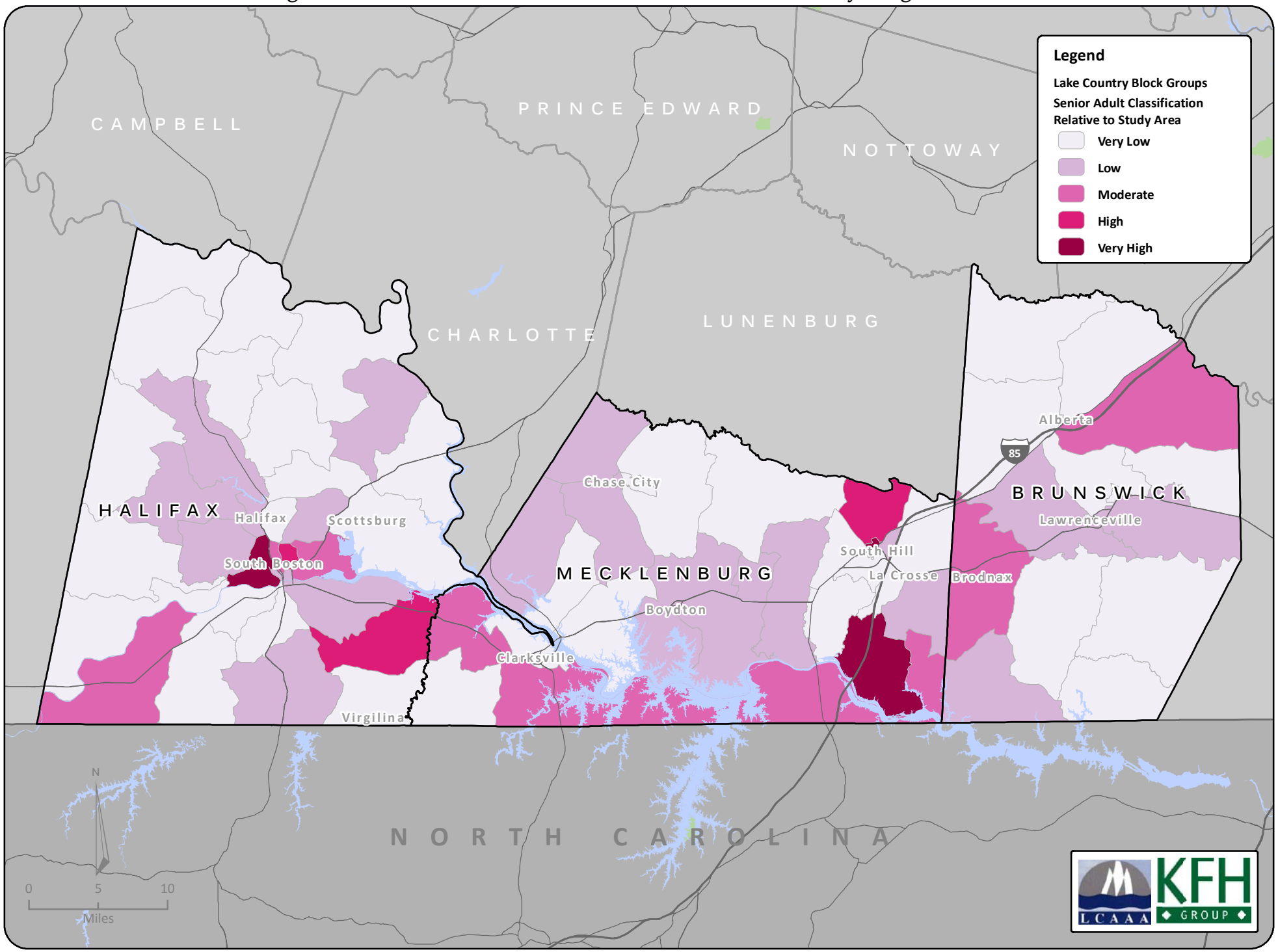
LCAAA performs an integral role in promoting the personal independence of senior adults in Brunswick, Halifax, and Mecklenburg Counties. Moreover, a recall of the senior adult statistics described in the general population subsection details the present and anticipated influence of this aging demographic within the three-county study area. As such, there is an added importance in determining the location of senior adults in Lake Country, so that they may be most effectively accommodated by public transportation initiatives in the study area. For purposes of this needs assessment, a senior adult is qualified as any individual aged 65 years old or above. Figure 3-5 provides a detailed overview of Lake Country and the whereabouts of senior adult residents. Those areas of the study area where a very high relative number of senior adults reside include the following block groups.

- The Mecklenburg County block group in South Hill that is bounded by Raleigh Avenue to the north, Mecklenburg Avenue to the east, Sunset Lane to the west, and Atlantic Street to the south.

- The Mecklenburg County block group south of South Hill that is bounded by Belfield Road and Gaulding Road to the north, Hall Road to the east, Flat Creek to the west, and Roanoke River to the south.

- The Halifax County block group in western South Boston that is bounded by Green's Folly Road to the north, River Road to the west, Halifax Road to the east, and the Dan River to the south.

Figure 3-5: Relative Number of Senior Adults in Lake Country, Virginia



High Density Housing

To best serve the residents of Lake Country with an efficient public transportation network, it is imperative to assess where the largest concentrations of individuals reside within the three county study area. Doing so will assist in determining an efficient approach toward providing the most direct service available to these important origins. Identification into the location of these housing establishments will serve as an indispensable complement to the more broad analyses associated with the two transit dependence indices and population density overview. Within Lake Country, there are 29 multi-unit housing complexes, which are detailed in Table 3-13 as high density housing. The vast majority of these establishments are located in the more densely populated places of Lake Country, including 11 complexes in South Boston and seven complexes in South Hill. Figure 3-6 provides a visual depiction of the spatial distribution of these high density housing complexes found throughout the study area.

Title VI Analysis

Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin in programs and activities that receive financial assistance from the federal government. As such, agencies providing federally-funded public transportation services have the responsibility to sustain and enhance the social and economic quality of life for the residents of the communities to which they serve. The following section examines the environmental justice population of Lake Country, which constitutes both racial and/or ethnic minorities and low-income residents, in addition to an overview of the magnitude of Lake Country residents that possess limited proficiency in their English-speaking ability.

Environmental Justice Index (EJI)

EJI is an aggregate measure that may be employed with mapping software to effectively display relative concentrations of racial and/or ethnic minorities and low-income residents throughout the three-county study area. The methodology behind the EJI is presented in Appendix B. A visual depiction of the overall EJI classification for Lake Country may be found in Figure 3-7, while the following is a detailed description of the location of those blocks groups in Lake Country that have an EJI classification of very high.

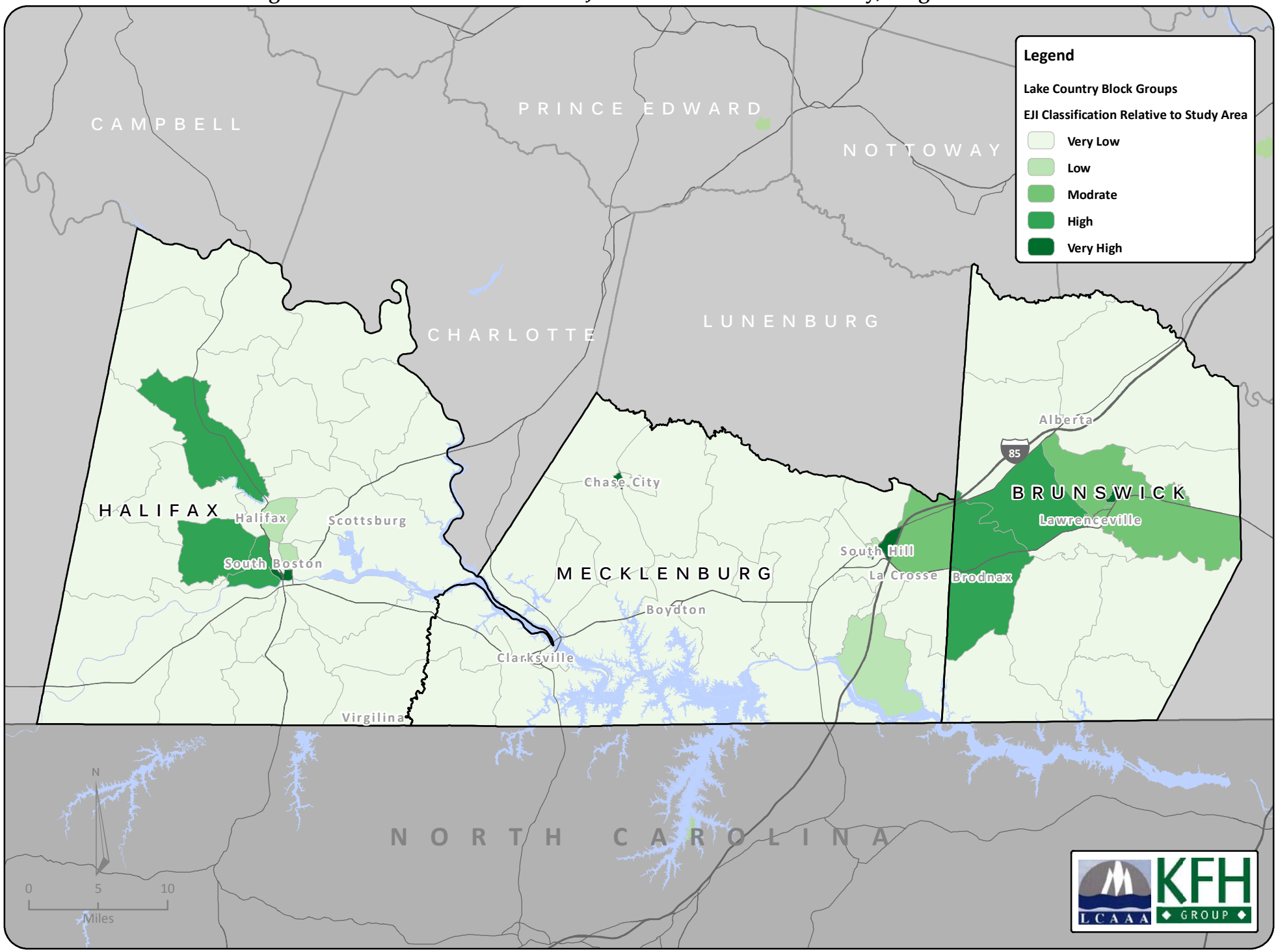
- The Brunswick County block group in Lawrenceville that is bounded by Bright Leaf Road to the north, Planters Road and Governor Harrison Parkway to the east, Rocky Run to the west, and the property line of the Lawrenceville Correctional Facility to the south. This block group represents the aforementioned institutionalized population of the correctional facility.

Table 3-13: High Density Housing Complexes in Lake Country

High Density Housing Complex Name	Street Address	Place	County	Complex Type
Alberta Manor	77 Elm Street	Alberta	Brunswick	Subsidized
Brunswick Commons Apartments	16 Brunswick Commons Court	Lawrenceville	Brunswick	Standard
Brunswick Manor	300 Union Street	Lawrenceville	Brunswick	Standard
Pinecrest Apartments	27 Crestview Road	Lawrenceville	Brunswick	Subsidized
Boston Commons	1146 North Main Street	South Boston	Halifax	Standard
Cavalier Apartments	200 Hamilton Boulevard	South Boston	Halifax	Standard
Country Green Apartments	1000 East Bishop Drive	South Boston	Halifax	Standard
Fairmont Apartments	130 Poplar Creek Street	South Boston	Halifax	Standard
Gateway-Halifax Apartments	630 Berry Hill Road	South Boston	Halifax	Subsidized
Rose Hill Apartments	111 Rosehill Drive	South Boston	Halifax	Standard
South Boston Manor	406 Oak Lane	South Boston	Halifax	Standard
Taylor Lofts Apartments	340 Ferry Street	South Boston	Halifax	Standard
Westside Village	2150 Sinai Road	South Boston	Halifax	Subsidized
Willow Oak Apartments	300 Poplar Creek Street	South Boston	Halifax	Standard
Woodcrest Apartments	300 Hamilton Boulevard	South Boston	Halifax	Standard
Ashley Manor	130 Charlotte Avenue	La Crosse	Mecklenburg	Subsidized
Briar Cliff Apartments	100 Raleigh Road	South Hill	Mecklenburg	Standard
Chase Place Apartments	700 South Hervey Street	Chase City	Mecklenburg	Subsidized
Chase Run Apartments	608 Chase Run	Chase City	Mecklenburg	Standard
Country Squire Apartments	625 North Marshall Street	Chase CIty	Mecklenburg	Standard
Cross Creek Apartments	120 North Lunenburg Avenue	South Hill	Mecklenburg	Standard
Fox Run Apartments	601 Locust Street	South Hill	Mecklenburg	Standard
Lakewood Apartments	Falls Road and Jefrey Lane	South Hill	Mecklenburg	Subsidized
Lakewood Apartments	500 Meadow Court	Clarksville	Mecklenburg	Standard
Maple Manor Apartments	136 Endly Street	Chase City	Mecklenburg	Standard
Mecklenburg Manor	719 East Ferrell Street	South Hill	Mecklenburg	Subsidized
Pinewood Forest Apartments	881 Powell Drive	South Hill	Mecklenburg	Standard
Planters-Woods Apartments	601 East Ferrell Street	South Hill	Mecklenburg	Standard
River Wynd Apartments	600 River Wynd Drive	Clarksville	Mecklenburg	Standard

Figure 3-6: High Density Housing in Lake Country, Virginia

Figure 3-7: Relative Environmental Justice Index for Lake Country, Virginia



- The Mecklenburg County block group in eastern South Hill that is bounded by Mecklenburg Avenue to the north and west, Interstate 85 to the east, and Atlantic Street to the south.

- The Mecklenburg County block group in southwestern South Hill that is bounded by Atlantic Street to the north, Opie Road and Plank Road to the west, Mecklenburg Avenue and Hill Avenue to the east, and Locust Street and Danville Street to the south.

- The Mecklenburg County block group in western Chase City that is bounded by Academy Street and Anderson Street to the north, Monroe Street and Pine Tree Lane to the west, Main Street to the east, and E Street and Railroad Avenue to the south.

- The Halifax County block group in South Boston that is bounded by Hodges Street and Webster Street to the north, John Randolph Boulevard to the east, railroad tracks to the west, and the Dan River to the south.

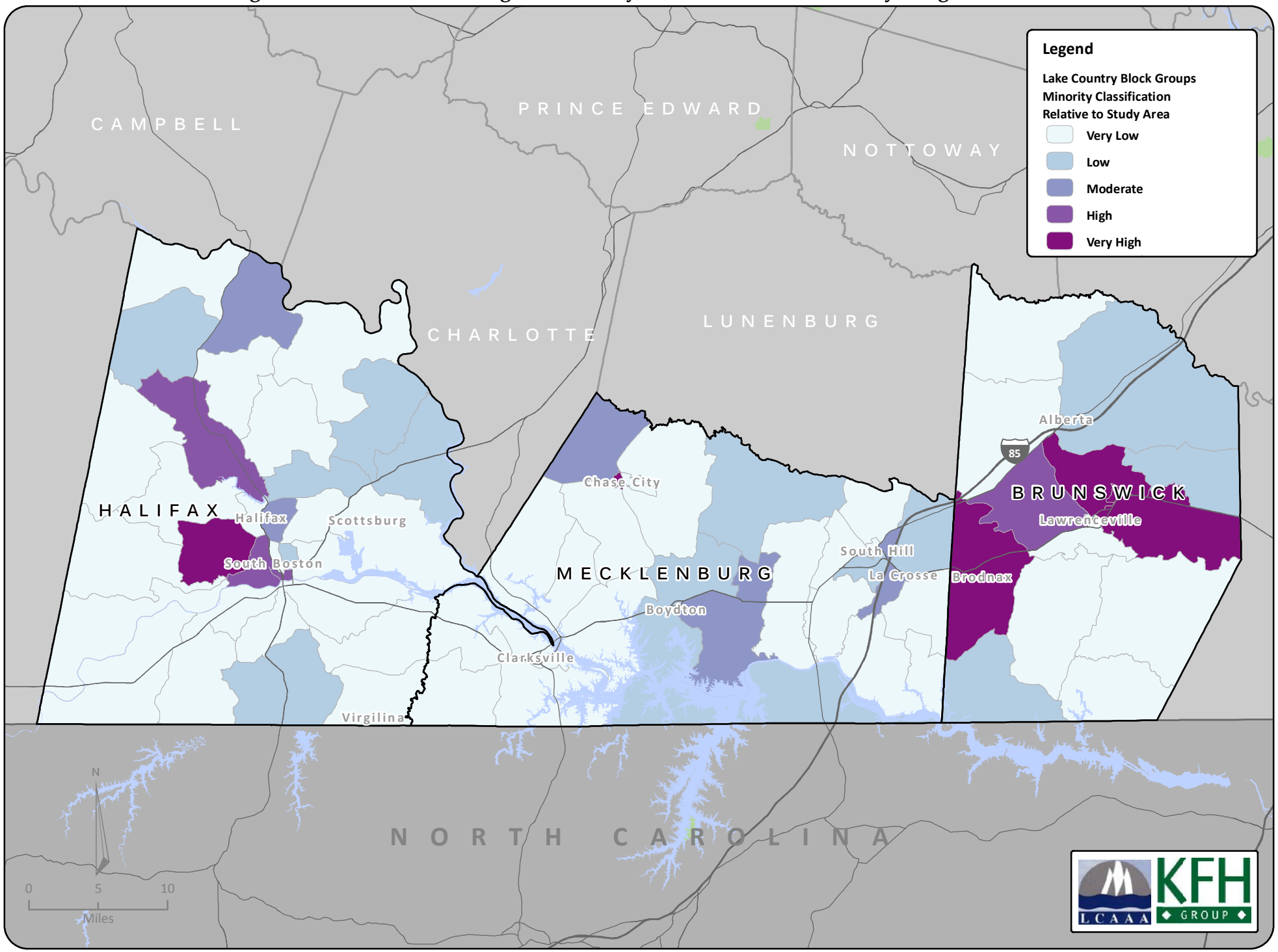
Minority Population

In accordance to Title VI of the Civil Rights Act of 1964, it is important to ensure that areas in Lake Country with a relative concentration of racial and/or ethnic minorities are not negatively impacted by any proposed alterations to existing public transportation services. To determine whether an alteration would have an adverse impact upon Lake Country's minority population, it is necessary to first understand where these relative concentrations of individuals reside. Figure 3-8 provides a visual depiction of the areas in Lake Country based upon the relative percentage of minority persons per block group. The classification scheme employed by this map matches those used for representing the analyzed socioeconomic characteristics of the previous demographic subsection. The following block groups have a very high minority population relative to the study area:

- Three Brunswick County block groups to the immediate northeast of Lawrenceville that are bounded roughly by Liberty Road, Governor Harrison Parkway, and the Brunswick-Greensville County Line to the north and east, Boydton Plank Road and Christanna Highway to the west, and the Meherrin River to the south.

- The Brunswick County block group bounded by the Meherrin River to the north, the Brunswick-Mecklenburg County Line to the west, Robinson Ferry Road to the east, and Alvis Road, Brodnax Road, and Dry Bread Road to the south.

Figure 3-8: Relative Percentage of Minority Residents in Lake Country, Virginia



- The Mecklenburg County block group in western Chase City that is bounded by Academy Street and Anderson Street to the north, Monroe Street and Pine Tree Lane to the west, Main Street to the east, and E Street and Railroad Avenue to the south.

- The Halifax County block group west of Halifax and South Boston that is bounded by Mountain Road to the north, High View Road and Jones Ferry Road to the west, River Road to the east, and Miry Creek to the south.

Low-Income Population

The second socioeconomic group included in the EJI is those individuals who earn less than the federal poverty level in an observed period of time. These individuals face financial hardships that make ownership and maintenance of a personal vehicle difficult and oftentimes unachievable. As such, these individuals are more likely to be dependent upon public transportation for both mandatory and discretionary trips. Therefore, it is important to ensure that these environmental justice persons, like those individuals exhibiting any of the previously mentioned vulnerable characteristics, are carefully identified and protected from any injustice that may result from a potential service modification. Figure 3-9 is a map depicting the relative low-income individuals classification by block group throughout Lake Country. The following block groups have a very high low-income population relative to the study area:

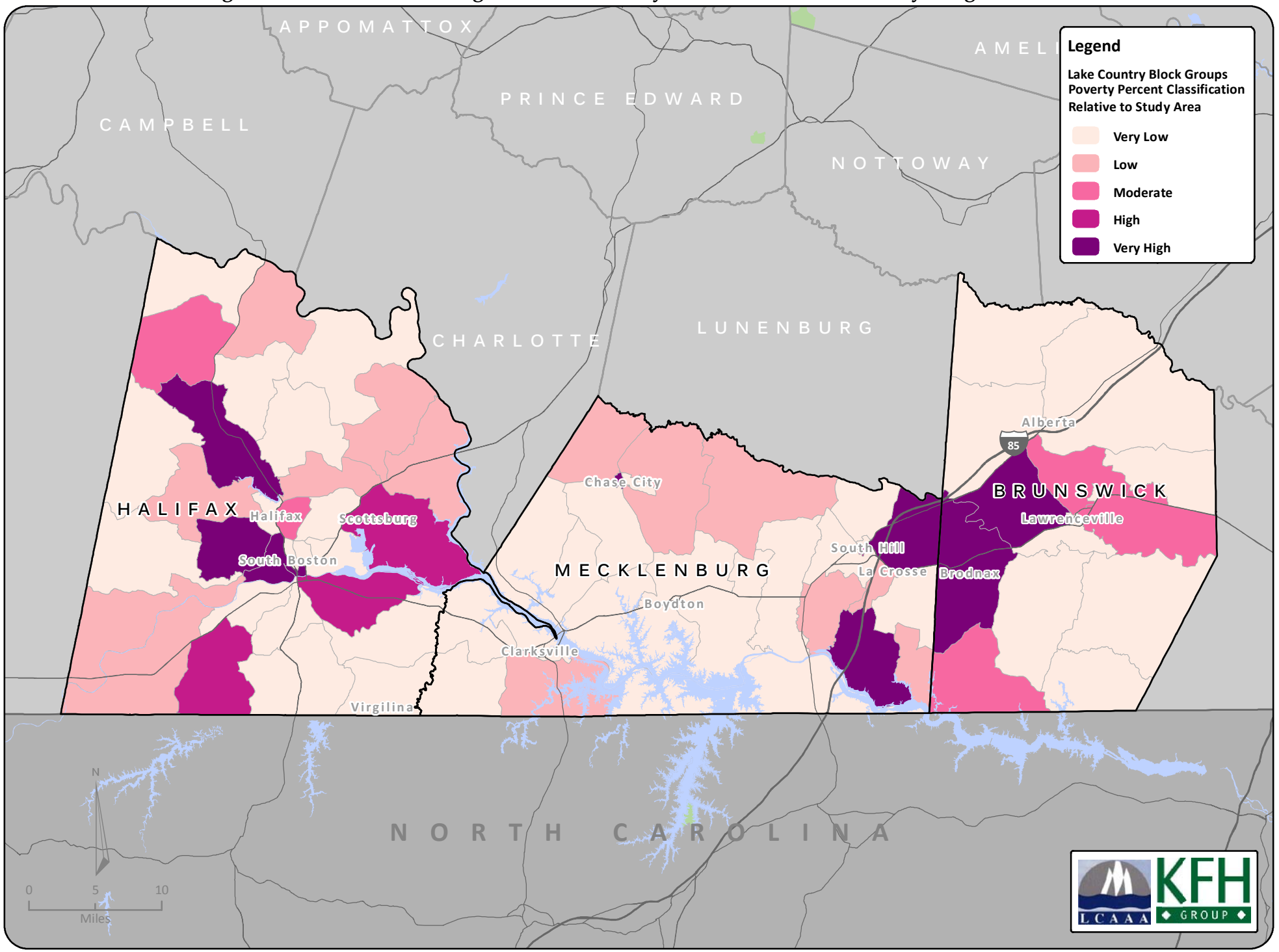
- The Brunswick block group west of Lawrenceville that is bounded by Boydton Plank Road to the northwest, Christanna Highway to the northeast, Governor Harrison Parkway to the southeast, and the Meherrin River to the southwest.

- The Brunswick County block group bounded by the Meherrin River to the north, the Brunswick-Mecklenburg County Line to the west, Robinson Ferry Road to the east, and Alvis Road, Brodnax Road, and Dry Bread Road to the south.

- The Mecklenburg County block group in western Chase City that is bounded by Academy Street and Anderson Street to the north, Monroe Street and Pine Tree Lane to the west, Main Street to the east, and E Street and Railroad Avenue to the south.

- The Mecklenburg County block group south of South Hill that is bounded by Belfield Road and Gaulding Road to the north, Hall Road to the east, Flat Creek to the west, and Roanoke River to the south.

Figure 3-9: Relative Percentage of Below-Poverty Residents in Lake Country, Virginia



- The Mecklenburg County block group in eastern South Hill that is bounded by Mecklenburg Avenue to the north and west, Interstate 85 to the east, and Atlantic Street to the south.

- The Mecklenburg County block group in South Hill that is bounded by the Mecklenburg-Lunenburg County Line to the north, Union Mill Road and Interstate 85 to the west, the Mecklenburg-Brunswick County Line to the east, and East Atlantic Street to the south.

- The Halifax County block group in South Boston that is bounded by Hodges Street and Webster Street to the north, John Randolph Boulevard to the east, railroad tracks to the west, and the Dan River to the south.

- The Halifax County block group in western South Boston that is bounded by Green's Folly Road to the north, River Road to the west, Halifax Road to the east, and the Dan River to the south.

- The Halifax County block group west of Halifax and South Boston that is bounded by Mountain Road to the north, High View Road and Jones Ferry Road to the west, River Road to the east, and Miry Creek to the south.

- The Halifax County block group northwest of Halifax that is bounded by Bradley Creek Road to the north, Banister River and Chatham Road to the west, Terrible Creek to the east, and Banister River to the south.

Limited-English Proficiency

In addition to equitably providing public transportation to individuals of diverse socioeconomic backgrounds, it is also important to realize the variety in languages spoken by Lake Country residents. Consequently, LCAAA must determine the appropriate level to which the agency disseminates information to individuals and households with limited proficiency in English-speaking ability throughout the three-county region. According to the American Community Survey's (ACS) five-year estimates for 2005-2009, the English language is predominately spoken amongst the residents of Brunswick (97.87%), Halifax (97.89%), and Mecklenburg Counties (97.30%). Amongst the other languages spoken by residents of Lake Country, only Spanish has a percent-share greater than one percent in any of the three counties. However, none of the counties in Lake Country have more than 2% of the residential population that speaks Spanish at home. Furthermore, among all of the residents in Lake Country that speak a language other than English at home (2.39%), only 55.82% of the non-English speaking residents are unable to speak English "very well." Thus, the overwhelming

majority of residents in Lake Country are either native English speakers or at ease with speaking the language.

Examining the linguistic isolation among households in Lake Country denotes a similar finding, which is detailed in Table 3-14. For each of the three counties in Lake Country, less than 1% of the households are deemed linguistically isolated by the ACS's findings. Moreover, more than 96% of the households in each of the counties speak English while in the home. Only Brunswick County has any single language, other than English, representing more than a 2% share, with Spanish being spoken in 2.13% of all households in the eastern-most county.

Land Use Analysis—Key Potential Transit Destinations

Whereas one essential segment of an encompassing needs assessment is to examine the demographic characteristics of the study area's residents and other origin-related information, a second segment must include the identification and assessment of the destinations where these persons need to travel. The following subsection provides an assessment of the destination side of the origin-destination pairing.

Location of Human Service Agencies

Human service agencies provide assistance and resources to residents seeking support in a spectrum of issues including, but not limited to, senior health care, childhood development, recreation, and nutrition. The range of services offered by these agencies, which includes LCAAA, makes them a critical component to any supported community and, thus, are locations where public transportation will undoubtedly serve as a vital travel option. Table 3-15 provides a listing of human service agencies in Lake Country, which are spatially displayed in Figure 3-10**.** Large concentrations of these agencies are located within the various communities of Lake Country, including Lawrenceville, South Boston, and South Hill. It should be noted that there are agencies located outside the Town limit service areas of LAB and HART services, particularly in Boydton, the County seat of Mecklenburg County.

Major Employment Sites

For the purposes of this needs assessment, a major employment site is recognized as a single employment location within Lake Country that employs at least 50 workers, as reported by the Virginia Employment Commission's Quarterly Census of Employment and Wages report for the fourth quarter of 2010. This list comprises 26 unique employment sites in the three-county study area, despite the fact that Brunswick County does not have a single employment location which meets the predetermined threshold. A complete breakdown of these major employers is denoted in Table 3-16 and visually depicted in Figure 3-11. Although many of these employers are located in

Table 3-14: Limited-English Proficiency and Linguistic Isolation in Lake Country

County of Residence	Brunswick		Halifax		Mecklenburg	
Population Five Years and Older	**16,896**		**33,344**		**30,289**	
Language Spoken at Home--	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
English:	16,536	97.87%	32,642	97.89%	29,470	97.30%
Spanish:	201	1.19%	470	1.41%	528	1.74%
French:	18	0.11%	42	0.13%	31	0.10%
German:	31	0.18%	24	0.07%	14	0.05%
Korean:	15	0.09%	49	0.15%	0	0.00%
Arabic:	0	0.00%	24	0.07%	68	0.22%
Other:	95	0.56%	93	0.28%	178	0.59%
Speak non-English at Home:	360	2.13%	702	2.11%	819	2.70%
Ability to Speak English--						
"Very Well":	237	65.83%	302	43.02%	292	35.65%
Less than "Very Well":	123	34.17%	400	56.98%	527	64.35%
Population in Households	**6,149**		**14,656**		**12,532**	
Language Spoken in Household--	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**
English:	5,911	96.13%	14,241	97.17%	12,147	96.93%
Spanish:	131	2.13%	258	1.76%	216	1.72%
Other Indo-European:	87	1.41%	100	0.68%	52	0.41%
Asian and Pacific:	17	0.28%	29	0.20%	49	0.39%
Other Languages:	3	0.05%	28	0.19%	68	0.54%
Linguistically Isolated:	16	0.26%	85	0.58%	84	0.67%
Language Spoken in Household--						
Spanish:	16	0.26%	53	0.36%	69	0.55%
Other Indo-European:	0	0.00%	16	0.11%	9	0.07%
Asian and Pacific:	0	0.00%	16	0.11%	3	0.02%
Other Languages:	0	0.00%	0	0.00%	3	0.02%

Source: American Community Survey, Five-Year Estimates (2005-2009), Table B16001 and Table B16002.

Table 3-15: Human Service Agencies in Lake Country

Human Service Agency Name	Street Address	Place	County	Agency Type
Brunswick County Adult Center	101 Riddick Street	Lawrenceville	Brunswick	Nutrition Site
Brunswick County Department of Social Services	201 Sharp Street	Lawrenceville	Brunswick	Department of Social Services
Brunswick County Library	133 West Hicks Street	Lawrenceville	Brunswick	Library
Ebenezer Church	2309 North Main Street	South Boston	Halifax	Nutrition Site
Halifax County Department of Social Services	1030 Cowford Road	Halifax	Halifax	Department of Social Services
Halifax County Library	117 South Main Street	Halifax	Halifax	Library
South Boston Library	509 Broad Street	South Boston	Halifax	Library
YMCA of South Boston and Halifax County	650 Hamilton Boulevard	South Boston	Halifax	Recreational Site
Boydton Library	316 Washington Street	Boydton	Mecklenburg	Library
Butler Memorial Library	515 Marshall Street	Chase City	Mecklenburg	Library
Clarksville Presbyterian Church	502 Virginia Avenue	Clarksville	Mecklenburg	Nutrition Site
Clarksville Public Library	914 Virginia Avenue	Clarksville	Mecklenburg	Library
Lake Country Area Agency on Aging	1105 West Danville Street	South Hill	Mecklenburg	Adult Day Health Care
Mecklenburg County Department of Social Services	911 Madison Street	Boydton	Mecklenburg	Department of Social Services
Mecklenburg Senior Citizens Center	411 King Street	South Hill	Mecklenburg	Nutrition Site
RC Yancey Masonic Lodge	405 Boyd Street	Chase City	Mecklenburg	Nutrition Site
RT Arnold Public Library	110 East Danville Street	South Hill	Mecklenburg	Library
South Hill YMCA	116 North Mecklenburg Avenue	South Hill	Mecklenburg	Recreational Site

Figure 3-10: Human Service Agencies in Lake Country, Virginia

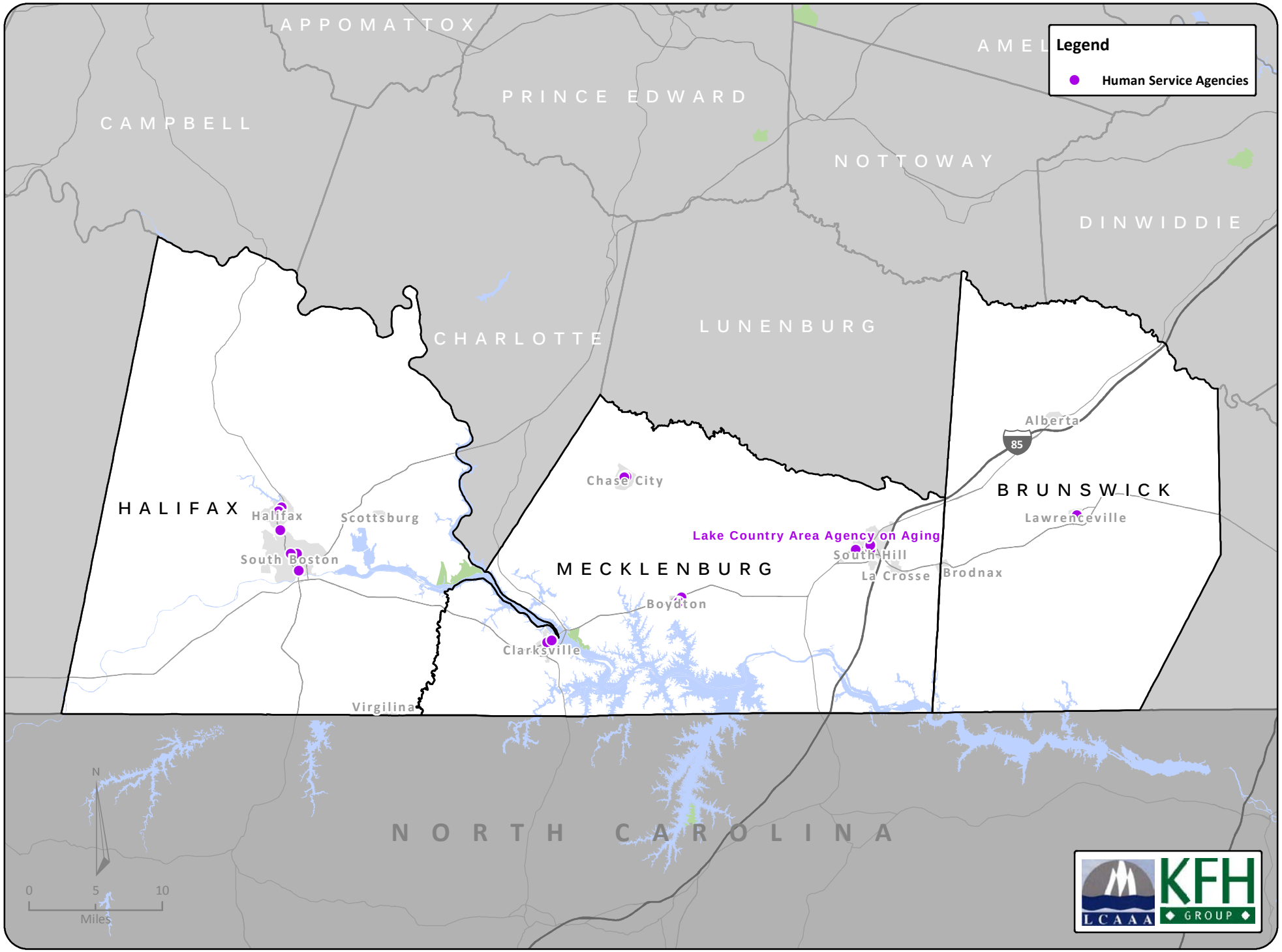
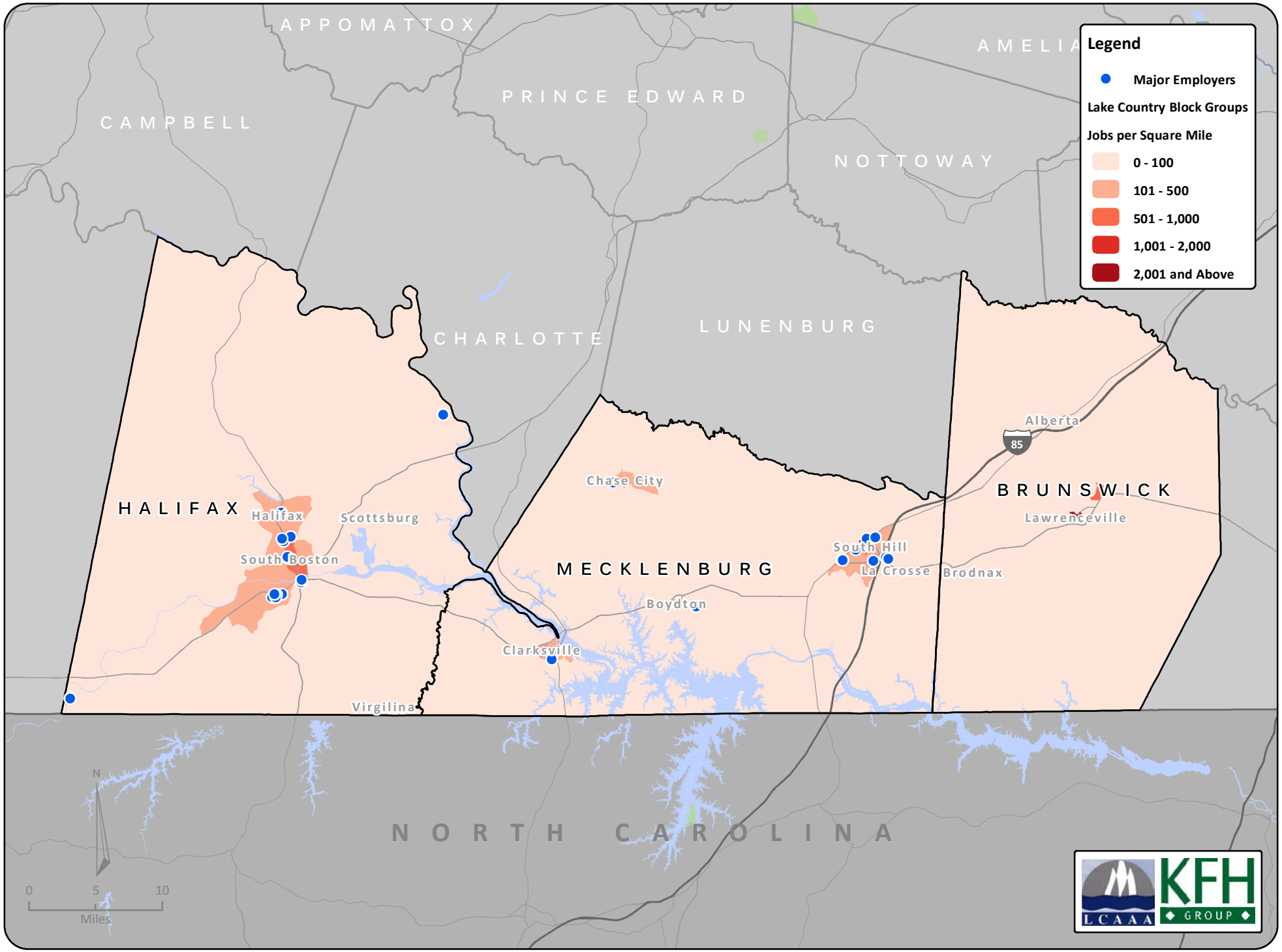


Table 3-16: Major Employers in Lake Country

Employer Name	Street Address	Place	County	Number of Employees
Halifax Regional Hospital	2204 Wilborn Avenue	South Boston	Halifax	250 and Above
Dollar General	1030 Bill Tuck Highway	South Boston	Halifax	250 and Above
Dollar General	3140 Halifax Road	South Boston	Halifax	250 and Above
ABB Service Company Division	2135 Philpott Road	South Boston	Halifax	250 and Above
Presto Products Company	2225 Philpott Road	South Boston	Halifax	100 - 249
Walmart Supercenter	3471 Old Halifax Road	South Boston	Halifax	100 - 249
Gloster Furniture Inc	1075 Fulp Industrial Road	South Boston	Halifax	100 - 249
Virginia Electric and Power Company Inc	1035 Fort Hill Trail	Randolph	Halifax	100 - 249
Woodview Nursing Home	103 Rosehill Drive	South Boston	Halifax	100 - 249
Sunshine Mills Inc	100 Sunshine Drive	Halifax	Halifax	100 - 249
Virginia International Raceway	1245 Pine Tree Road	Alton	Halifax	100 - 249
Lasco Bathware Inc	1100 Industrial Park Road	South Boston	Halifax	100 - 249
Annin and Company	3011 Philpott Road	South Boston	Halifax	100 - 249
Climate Control Inc	1057 Bill Tuck Highway	South Boston	Halifax	100 - 249
Advantage Care Inc	2201 Wilborn Avenue	South Boston	Halifax	100 - 249
Community Memorial Health Center	125 Buena Vista Circle	South Hill	Mecklenburg	100 - 249
Jones Distribution Corporation	170 Butts Street	South Hill	Mecklenburg	100 - 249
Peebles Inc	1 Peebles Street	South Hill	Mecklenburg	100 - 249
Mecklenburg Correctional Center	960 Prison Road	Boydton	Mecklenburg	100 - 249
Monroe Tree Services	141 Keel Drive	Chase City	Mecklenburg	100 - 249
Walmart Supercenter	315 Furr Street	South Hill	Mecklenburg	100 - 249
Global Safety Textiles LLC	1556 Montgomery Street	South Hill	Mecklenburg	100 - 249
Penmac Personnel Services	874 North Mecklenburg Avenue	South Hill	Mecklenburg	100 - 249
Lake Country Area Agency on Aging	1105 West Danville Street	South Hill	Mecklenburg	100 - 249
International Veneer Company Inc	1551 Montgomery Street	South Hill	Mecklenburg	100 - 249
Key Contstruction COmpany	11453 Highway Fifteen	Clarksville	Mecklenburg	100 - 249

Figure 3-11: 2009 Employment Intensity and Major Employers in Lake Country, Virginia



the communities of Lake Country, there exist a number of sites that are positioned in more remote areas (e.g., Virginia Electric and Power Company, Inc. and Virginia International Raceway).

Specially, five of the major employers listed in Table 3-16 are clustered in the Halifax County industrial Park off of Philpott Road. Due to the Industrial Park's location outside of South Boston town limits, employees of ABB Service Company Division, Presto Products, Gloster Furniture, Lasco Bathware, and Annin and Company are not currently served by HART

Serving as a balance to the depiction of major employment sites, the map also captures overall employment within Lake Country through the presentation of job intensity per block group. These employment data are provided by the United States Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) 2009 dataset, which accumulates federal and state administrative data on employers and employees from censuses, surveys, and administrative records. One caveat of this rich dataset is its failure in accounting for federal civilian employees, uniformed military personnel, self-employed workers, and informally employed workers. As such, the jobs per square mile statistics displayed in the figure may be slightly lower than the true job intensity for any particular block group. The following two areas represent those block groups in Lake Country with at least 1,000 jobs per square mile.

- The Brunswick County block group in downtown Lawrenceville that is bounded by Windsor Avenue and Church Street to the north, Belt Street and Union Street to the west, Main Street and Roses Creek to the east, and Sixth Avenue to the south.

- The Mecklenburg County block group in northwestern South Hill that is bounded by Binford Street and Raleigh Avenue to the north, Sunset Lane to the west, and Atlantic Street to the south.

Medical Centers

Medical centers represent a significant destination for the senior adult population served by LCAAA as well as the general populace of Lake Country. In the three-county study area there are two hospitals of note, which include the Halifax Regional Hospital in South Boston and the Community Memorial Health Center in South Hill.These medical centers are detailed in Table 3-17 are mapped in Figure 3-12. There are no major medical centers in Brunswick County. Each of the three counties has a Health Department. The Brunswick County Health Department is in Lawrenceville, which is not served by LAB. The Mecklenburg County Health Department in Boydton is also outside the LAB service area. The Halifax Health Department is in Halifax, which is in the HART service area.

Figure 3-12: Medical Centers in Lake Country, Virginia

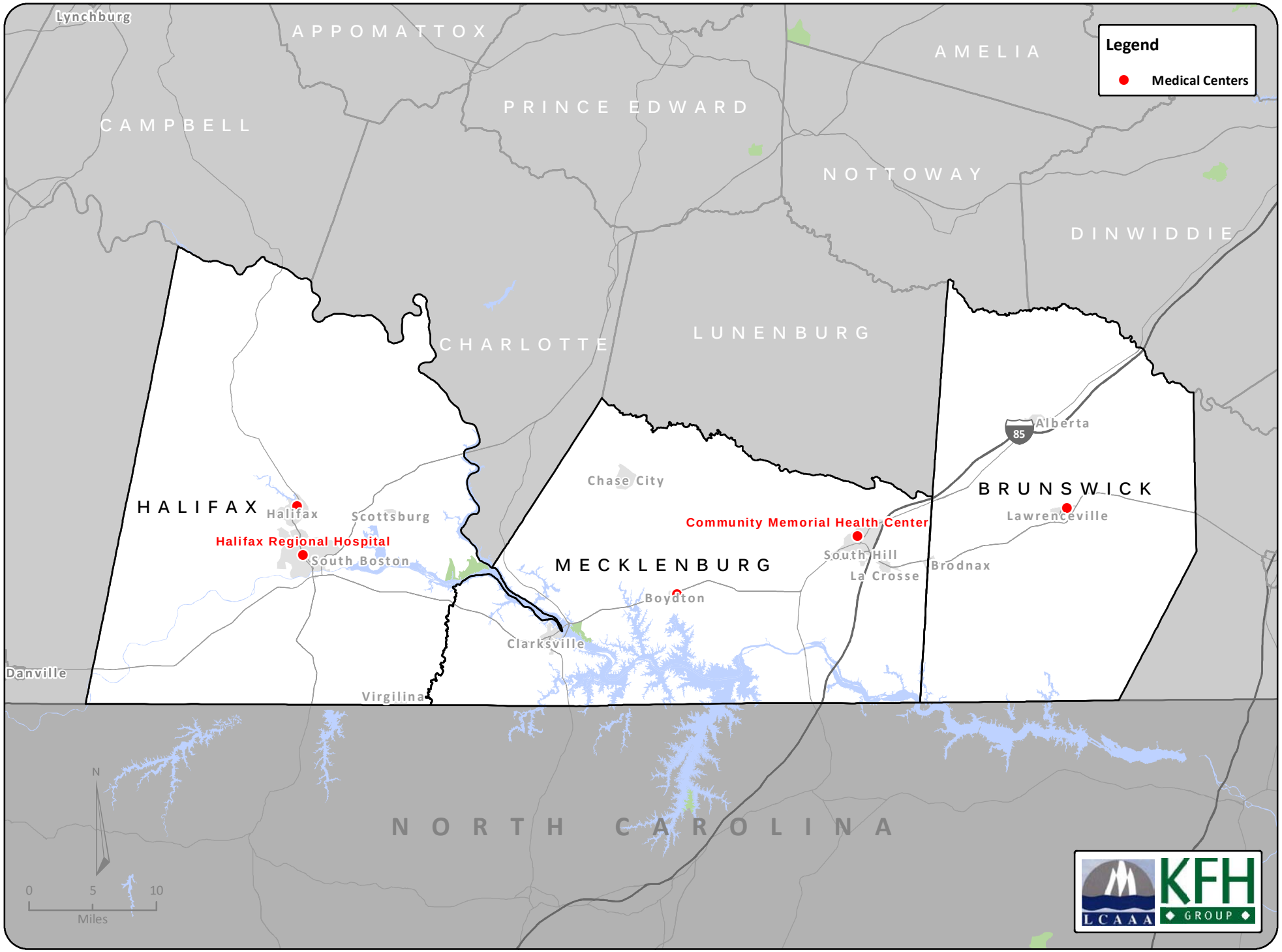


Table 3-17: Medical Centers in Lake Country

Medical Center Name	Street Address	Place	County
Brunswick County Health Department	1632 Lawrenceville Plank Road	Lawrenceville	Brunswick
Halifax County Health Department	1030 Cowford Road	Halifax	Halifax
Halifax Regional Hospital	2204 Wilborn Avenue	South Boston	Halifax
Community Memorial Health Center	125 Buena Vista Circle	South Hill	Mecklenburg
Mecklenburg County Health Department	478 Washington Street	Boydton	Mecklenburg
Southside Health Department	434 Washington Street	Boydton	Mecklenburg

Schools

Given that one of the five socioeconomic characteristics that comprised the TDI measure was the youth population and that many of these individuals are unable to legally operate their own personal vehicle, it may be assumed that this segment of the population is one that is reliant upon public transportation as a mobility service. Furthermore, the vast majority of these individuals between the ages of 10 and 17 are full-time students and therefore enrolled in educational facilities. Many adults above the age of 18 are also associated with these institutions as a place of employment or advanced education. Table 3-18 provides a detailed list of the educational institutions located in Lake Country, which includes Saint Paul's College in Lawrenceville and Southside Community College in Alberta. The geographic locations of these primary schools and colleges are displayed in Figure 3-13. The location of these institutions is expectedly decentralized throughout the study area with a greater concentration of sites in the larger communities of Lake Country.

Shopping Centers

Shopping centers are trip destinations in which residents may purchase essential items, such as groceries or general merchandise. Similar to the aforementioned trip generators, these centers are an attractive trip end for many residents since they also serve some as a place of employment. Within Lake Country, there were 13 shopping centers of note, which range from the Walmart Superstore in South Boston to the Red and White grocery store in Lawrenceville. These shopping centers are detailed in Table 3-19 and visually represented in Figure 3-14. All of these shopping sites are physically located within the major communities of Lake Country, including the previously mentioned towns in addition to Chase City and Clarksville.

Table 3-18: Educational Institutions in Lake Country

School Name	Street Address	Place	County	School Type
Brunswick High School	2171 Lawrenceville Plank Road	Lawrenceville	Brunswick	High
James Russell Middle School	19400 Christanna Highway	Lawrenceville	Brunswick	Middle
Meherrin-Powellton Elementary School	11555 Dry Bread Road	Lawrenceville	Brunswick	Elementary
Red Oak-Sturgeon Elementary School	4081 Flat Rock Road	Alberta	Brunswick	Elementary
Saint Paul's College	115 College Drive	Lawrenceville	Brunswick	College
Southside Community College	109 Campus Drive	Alberta	Brunswick	College
Totaro Elementary School	19350 Christanna Highway	Lawrenceville	Brunswick	Elementary
Clays Mill Elementary School	1011 Clays Mill School Drive	Scottsburg	Halifax	Elementary
Cluster Springs Early Learning Center	1011 Cluster Springs School Road	South Boston	Halifax	Early Learning Center
Cluster Springs Elementary School	7091 Huell Matthews Highway	Alton	Halifax	Elementary
Halifax County High School	1 High School Circle	South Boston	Halifax	High
Halifax County Middle School	1011 Middle School Circle	South Boston	Halifax	Middle
Halifax STEM Academy	315 South Main Street	Halifax	Halifax	Elementary
Meadville Elementary School	1011 Meadville School Loop	Nathalie	Halifax	Elementary
Scottsburg Elementary School	1010 Scottsburg School Trail	Scottsburg	Halifax	Elementary
Sinai Elementary School	1011 Sinai Elementary Drive	Halifax	Halifax	Elementary
South Boston Early Learning Center	1927 Jeffress Boulevard	South Boston	Halifax	Early Learning Center
South Boston Elementary School	2320 Parker Avenue	South Boston	Halifax	Elementary
Sydnor Jennings Elementary School	1011 Sydnor Jennings Road	Nathalie	Halifax	Elementary
Bluestone High School	6825 Skipwith Road	Skipwith	Mecklenburg	High
Bluestone Middle School	250 Middle School Road	Skipwith	Mecklenburg	Middle
Chase City Elementary School	5450 Highway Forty-Seven	Chase City	Mecklenburg	Elementary
Clarksville Elementary School	1696 Noblin Farm Road	Clarksville	Mecklenburg	Elementary
La Crosse Elementary School	1000 School Circle	La Crosse	Mecklenburg	Elementary
Park View High School	205 Park View Circle	South Hill	Mecklenburg	High
Park View Middle School	365 Dockery Road	South Hill	Mecklenburg	Middle
South Hill Elementary School	1290 Plank Road	South Hill	Mecklenburg	Elementary

Figure 3-13: Schools in Lake Country, Virginia

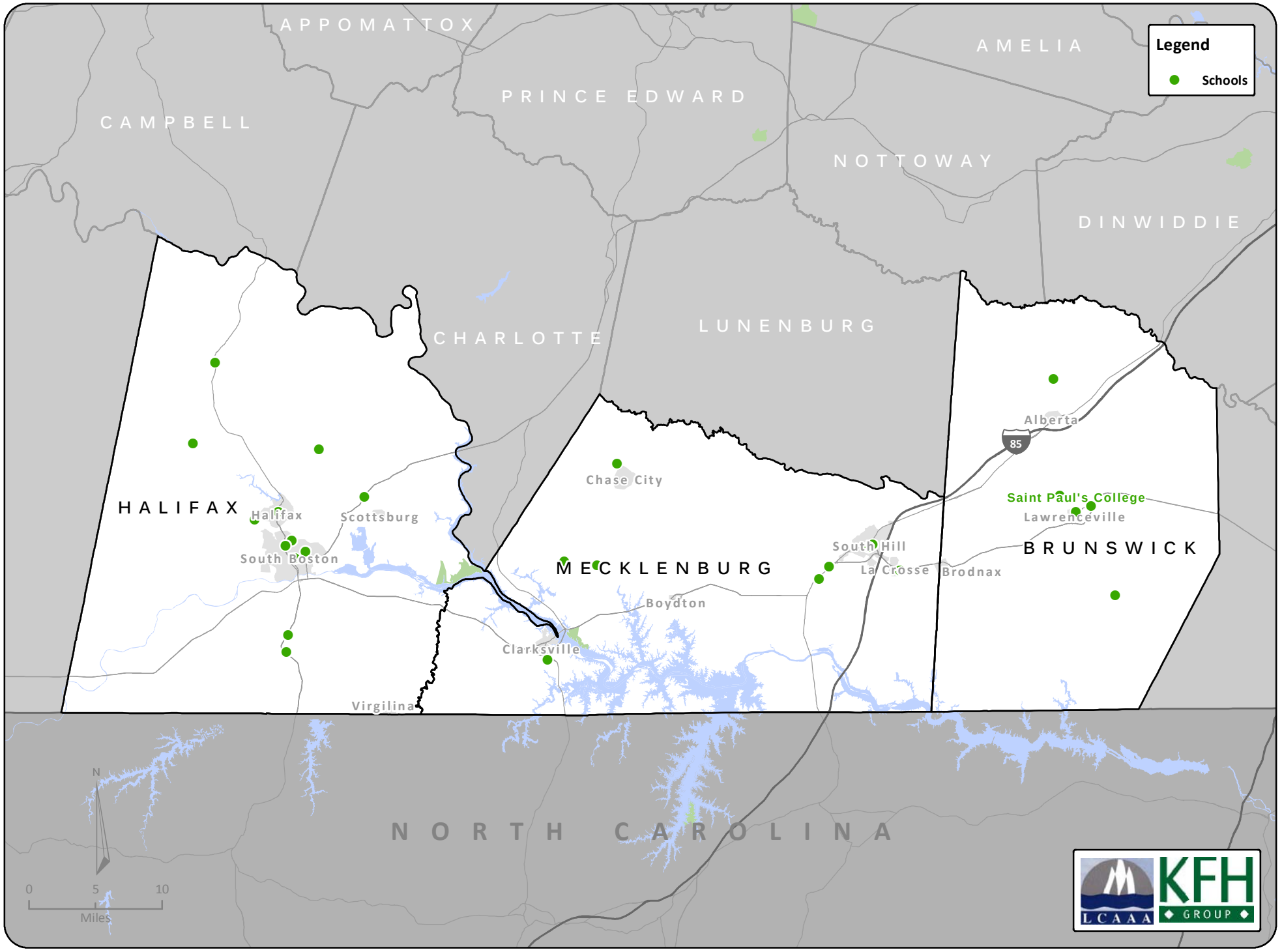


Figure 3-14: Shopping Centers in Lake Country, Virginia

Table 3-19: Shopping Centers in Lake Country

Shopping Center Name	Street Address	Place	County
Food Lion	US Highway 58 & Brunswick Square Court	Lawenceville	Brunswick
Red and White	202 County Road 1010	Lawrenceville	Brunswick
Farmer's Foods	2229 Wilborn Avenue	South Boston	Halifax
Food Lion	1020 Bill Tuck Highway	South Boston	Halifax
Food Lion	3130 Halifax Road	South Boston	Halifax
Walmart Supercenter	3471 Old Halifax Road	South Boston	Halifax
Food Lion	1022 West Atlantic Street	South Hill	Mecklenburg
Food Lion	715 East Atlantic Avenue	South Hill	Mecklenburg
Food Lion	1113 North Main Street	Chase City	Mecklenburg
Food Lion	1202 US Highway 158	Clarksville	Mecklenburg
Lowe's Foods	839 East Second Street	Chase City	Mecklenburg
Virginia Avenue Mall	317 Virginia Avenue	Clarksville	Mecklenburg
Walmart Supercenter	315 Furr Street	South Hill	Mecklenburg

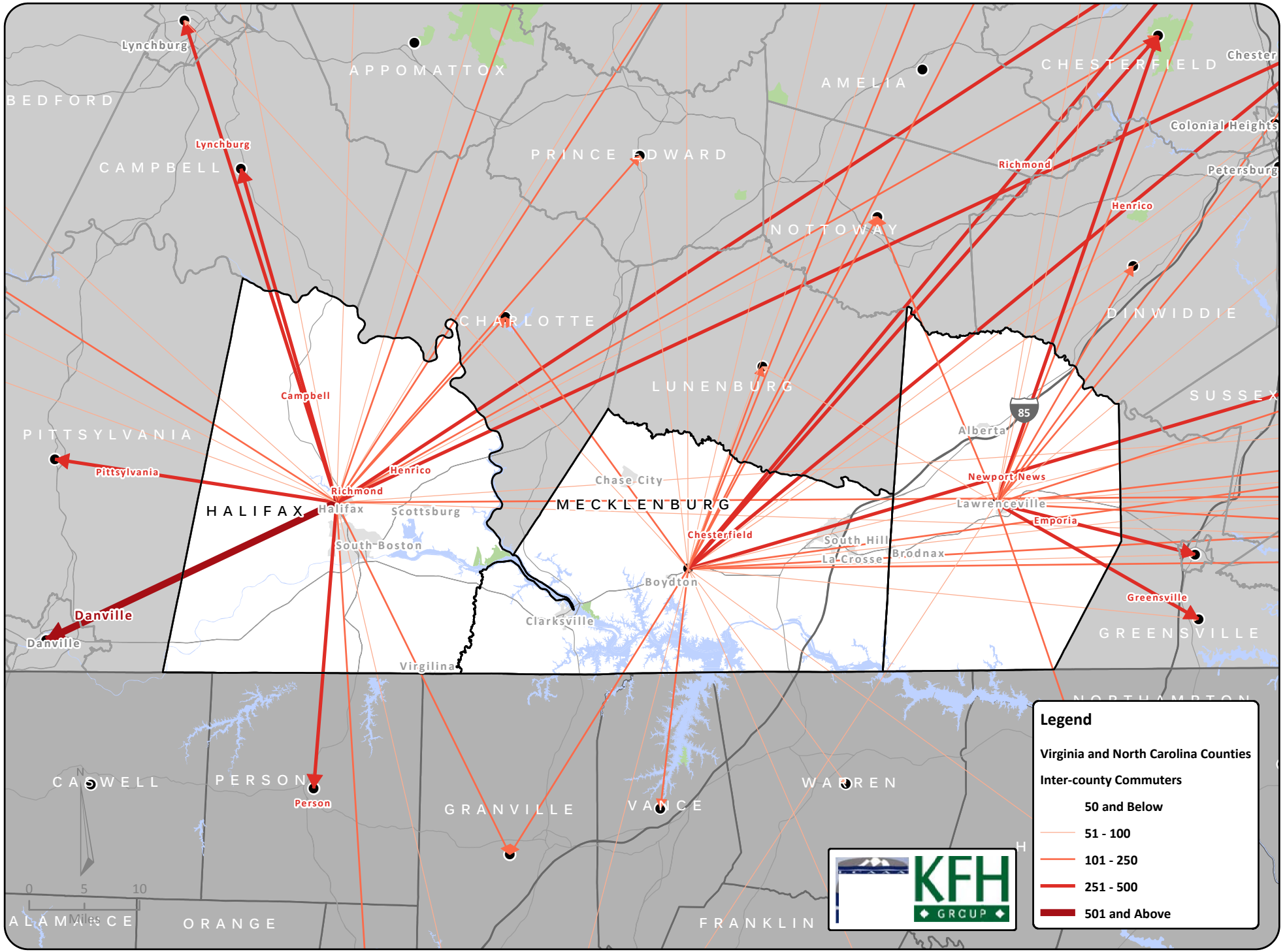
Travel Patterns

Taking into account the complete picture of how the above-mentioned origins and destinations are commonly linked to one another, the following subsection examines where residents of Lake Country commute for employment inside and outside of the three-county study area. The examination of journey-to-work data provided by the previously utilized 2009 LEHD dataset enables a greater comprehension of existing transportation corridors within Lake Country and the surrounding counties of Virginia and North Carolina. Presented with this data, one may determine if it makes sense for LCAAA to seek to develop employment transportation as part of its future plans for transportation in the region.

Intra-County Commuting

The first of two commuting analyses investigates the distribution of home-to-work trips within the three counties of Lake Country. This commute information is visually displayed in Figure 3-15. One set of the intra-county commute information looks specifically at the intra-zonal trips that occur within a particular geography. The geography used to portray this information is the Census tract level, which are Census geographies comprised of numerous individual block groups, for the counties of Lake Country. The darker the shade of green displayed in a particular Census tract, the greater the number of home-to-work trips that occur solely within the particular Census tract. The following Census tracts represent those areas with more than 500 daily intra-zonal home-to-work trips.

Figure 3-15: Journey-to-Work from Lake Country, Virginia based on LEHD 2009 Data



- The Halifax County Census tract of western South Boston and Halifax that is bounded by Mountain Road and Bethel Road to the north, High View Road and Jones Ferry Road to the west, Love Shop Road and Halifax Road to the east, and the Dan River to the south.

- The Mecklenburg County Census tract of South Hill that is bounded by Lunenburg County to the north, Skyline Road and Miles Creek to the west, Interstate 85 to the east, and Turtle Road, Goodes Ferry Road, and Dockery Creek to the south.

- The Brunswick County Census tract of Lawrenceville that is bounded by Boydton Plank Road and Liberty Road to the north, Meherrin River to the south and west, and Greensville County to the east.

Also displayed within this map are the traffic flows between each combination of Census tracts within Lake Country. There are 16 Census tracts within the Lake Country study area and subsequently, there are 54 possible inter-zonal links. These inter-zonal traffic flows are represented by red arrows, which increase in both width and richness of color as the daily traffic volume between two zones increases. It is important to note that when viewing this map, the points at which an arrow originates and terminates are not representative of any particular location, but rather the homes and employment sites of the entire Census tract geography. The thickest red line represents a travel link where over 500 daily home-to-work trips occur, with the arrow's head being the Census tract where the employment node of the trip exists. The following bulleted points are those areas where over 500 daily home-to-work trips are shared.

- The home-to-work trip originating in the Halifax County Census tract of central and eastern South Boston and terminating in the Halifax County Census tract of western South Boston and Halifax. There are 525 daily round-trip commutes representing this particular link.

- The home-to-work trip originating in the northwestern Halifax County Census tract and terminating in the Halifax County Census tract of western South Boston and Halifax. There are 611 daily round-trip commutes representing this particular link.

- The home-to-work trip originating in the southwestern Halifax County Census tract and terminating in the Halifax County Census tract of western South Boston and Halifax. There are 655 daily round-trip commutes representing this particular link.

Inter-County Commuting

The second of the two commuting analyses examines the distribution and frequency of home-to-work trips that originate in the three counties of Lake Country and terminate in the counties of Virginia and North Carolina. This commute information is displayed in Figure 3-16 in a manner similar to the intra-county traffic flows in the previous map. One important difference between the figures is that the geographies used in this figure are the counties and not the Census tracts used in the prior map. Also, the inter-county commuting depiction only examines those home-to-work commuting trips that originate in Brunswick, Halifax, or Mecklenburg Counties and terminate in a county outside of the study area. The prior intra-county depiction served the purpose of solely examining those trips that occur entirely inside of the three-county study area. Through examination of the inter-county commuting map, it becomes apparent that there is a great dispersion of commuting links and that the general direction of the more traveled home-to-work links leads Lake Country residents northeast and towards Richmond City, Henrico County, and Chesterfield County. However, of these possible links, only the Mecklenburg County to Chesterfield County link is one of the five most popular daily commuting links originating in Lake Country, with 324 daily round-trip commutes. The following connections represent the other top five inter-county links for Lake Country.

- The home-to-work trip originating from Halifax County and terminating in the City of Danville, Virginia generates 785 daily round-trips.

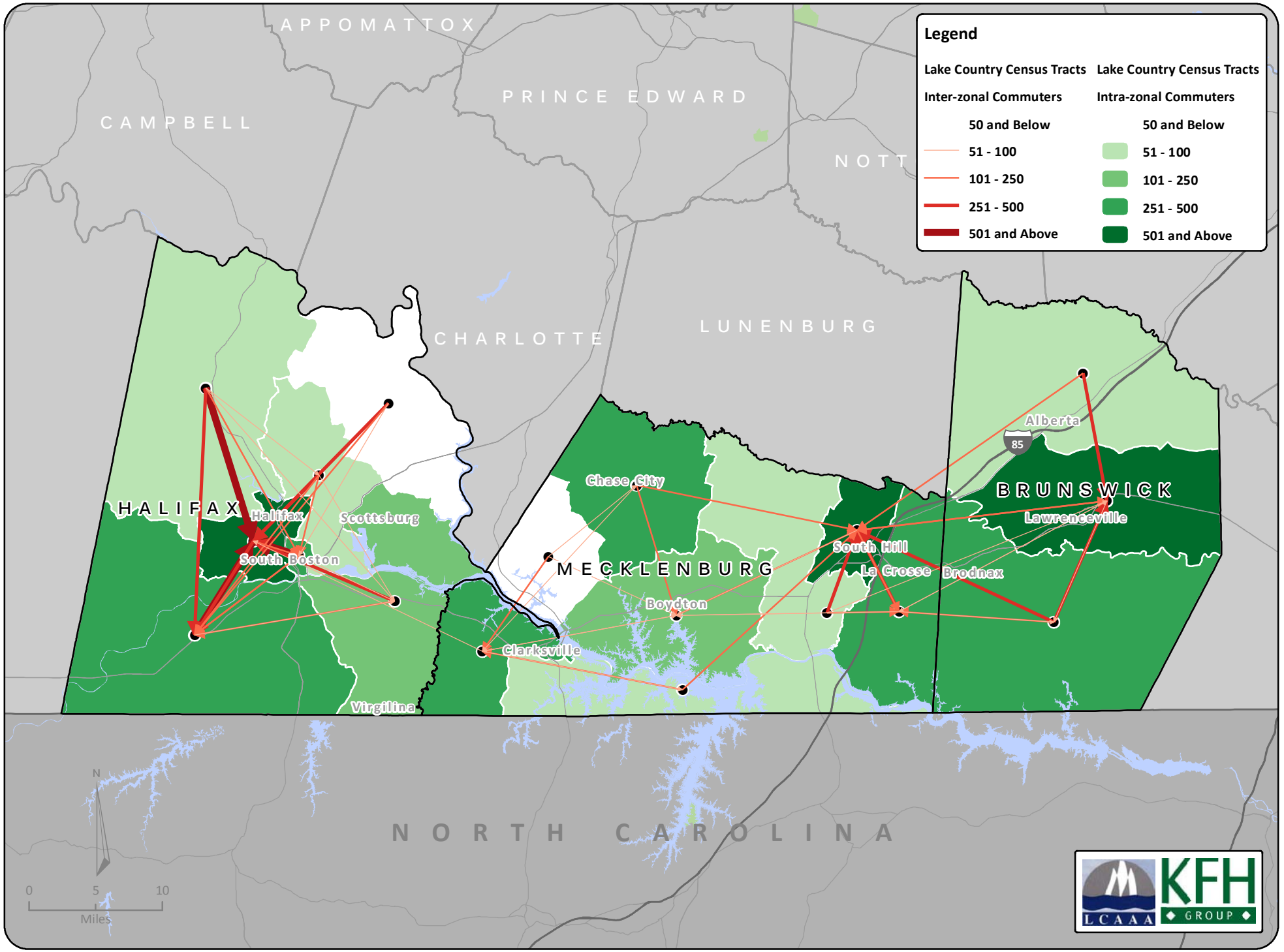
- The home-to-work trip originating from Halifax County and terminating in the City of Lynchburg, Virginia generates 476 daily round-trips.

- The home-to-work trip originating from Brunswick County and terminating in the City of Emporia, Virginia generates 412 daily round-trips.

- The home-to-work trip originating from Halifax County and terminating in Person County, North Carolina generates 403 daily round-trips.

It should be noted that LCAAA transportation services are not currently designed to address most work trips. The human service agency client transportation services do not include employment as an eligible trip purpose, and the general public LAB and HART demand-response services have limited hours that would make it difficult for a full-time worker to schedule work trips, as the total span of service is only 8 hours and 15 minutes per day.

Figure 3-16: Journey-to-Work for Lake Country, Virginia based on LEHD 2009 Data



Chapter 4

Constrained and Vision Alternatives

SERVICE EXPANSION PROJECT DESCRIPTIONS

Chapter 4 provides a range of service alternatives for consideration over the six-year horizon covered by the LCAAA TDP. The alternatives have been developed based on the data compiled and analyzed in Chapters 1-3, and are presented in two categories: constrained and vision. The former are modest in scope, focusing on steps LCAAA can take to improve service for core locations and respond to community input within the context of challenging economic conditions. The latter, more ambitious alternatives are also based on current transit needs and stakeholder input. LCAAA can use these alternatives as reference while working to increase collaboration with (and local contributions from) County and Town officials throughout Lake Country.

The selected alternatives will need to be included in the Statewide Transportation Improvement Program (STIP) for the anticipated year of implementation. DRPT is responsible for including the TDP plan elements in the STIP. If and when the TDP is amended by LCAAA as a result of its annual review of implementation progress, the amendments need to be transmitted to DRPT for inclusion in the amended STIP, to ensure that the projects are eligible for federal funding,

Each service alternative is detailed in this section, and includes (where applicable):

- A summary of the service alternative,
- Potential advantages and disadvantages,
- Ridership estimates,
- An estimate of the operating and capital costs,
- Potential funding sources or issues, and
- Compatibility with local land use planning.

It should be noted that these alternatives are designed to serve as a starting point and can be modified as needed based on continued stakeholder input. In addition, the cost information is expressed as fully allocated costs, which means the TDP considers all of the program's costs on a per unit basis. This overstates the incremental cost of service expansion, as there are likely to be some administrative expenses that would not be increased with the addition of a few service hours or a route segment.

CONSTRAINED ALTERNATIVES

Constrained Alternative #1: Expanded Service Hours or Days for LAB and HART

Currently LAB and HART provide service Monday through Friday from 8:15 a.m. to 4:30 p.m. Riders indicated through the on-board survey that an absence of weekend and later afternoon service was the least favorable aspect of LCAAA transportation. Similarly, when asked which service improvement would be most important to them, the greatest number listed earlier morning service, closely followed by Saturday and later afternoon service. The request for earlier morning hours may be consistent with the most common trip purpose, which was "senior center." The Mecklenburg Senior Citizens Center is open from 8:00 a.m. to 1:00 p.m., Monday through Wednesday.

This alternative addresses rider concerns by adding an additional hour of service in the morning, an additional hour of service in the afternoon, and/or half day Saturday service. LCAAA could also consider offering full day service on the first Saturday of the month. An additional morning hour would result in about 251 additional revenue hours on an annual basis, and both a morning and afternoon hour would result in about 502. Adding half day service from 8:15 a.m. to 12:30 p.m. every Saturday would result in about 221 additional revenue hours, while once a month Saturday service on the current weekday schedule would result in about 99 (Table 4-1).

Table 4-1: Constrained Alternative #1: Sub-Alternatives

Sub-Alternative	Incremental Annual Revenue Hours (per system)	Incremental Annual Operating Cost (per system)
Additional morning hour of service	251	$5,560
Additional morning and afternoon hour of service	502	$11,125
Half day Saturday service	221	$4,900
Full day Saturday service once per month	99	$2,195

Advantages

- Offers mobility for LAB and HART users on weekends and for a longer range of hours.
- Expanding hours at both ends of the day would make LAB and HART more usable for employment transportation.
- Responds to the highest priority need articulated via passenger surveys.

Disadvantages

- Adding a service hour to the morning and/or afternoon would require scheduling more than one driver per day.
- May necessitate certifying additional drivers to meet Federal Transit Administration drug and alcohol regulations.
- Adds days or hours of service that may not be as productive as current service, in terms of boardings per service hour.

Expenses and Funding Sources

- Using LAB and HART's fully allocated average operating cost per hour of $22.16 (FY10); 251 additional revenue hours would cost about $5,560 for each system annually in operating expenses. Two more hours of service (502 revenue hours each) would cost about $11,125. Half day service every Saturday (221 revenue hours each) would cost about $4,900 for each system, and once a month full day Saturday service (99 revenue hours each) would cost about $2,195.
- No additional capital would be required.
- With an average farebox recovery of 14% (FY10), the net deficit would be about $4,780 for each system for one additional hour of service, about $9,570 for each system for two additional hours of service, about $4,210 for each system for half day Saturday service, and about $1,890 for each system for monthly Saturday service.
- It is proposed that this deficit would be split in the same manner as the current net deficit, which is up to 50% Federal Section 5311, 15% state, and 35% local. This assumption obviously depends on the continued availability of federal and state funding under the current programs.

Ridership

- LAB and HART's current average ridership is about 2.5 passenger trips per revenue hour (FY10). Assuming that Saturday service and/or an additional first or last hour of service will have somewhat lower (2 passenger trips per

revenue hour) average ridership, it is estimated that about 502 additional annual passenger trips for each system would be generated by an additional hour of service, 1,004 for two additional hours, 442 for half day Saturday service, and 198 for once monthly full day Saturday service.

Land Use

- Expanded service hours and/or days may attract some new riders, but this change would have a negligible impact on land use relative to current operations.
- Providing additional transit service in the current service areas would be supportive of efforts to focus development within the more urban areas of the region.
- Additional transit service would maintain the ability of the existing transit dependent population within the service areas to stay in their homes, supporting housing values and local business.

Constrained Alternative #2: LAB Service to Boydton

LAB service in Mecklenburg County is available within the town limits of South Hill, La Crosse, and Brodnax. Boydton, 17 miles to the southwest, currently lacks transit service. As the County seat, Boydton is the location of several critical destinations for all Mecklenburg residents and for the transit-dependent population served by LCAAA in particular. These include the Mecklenburg County Health Department, the non-profit Health Care on the Square (formerly Boydton Medical Center), and the Mecklenburg General District Court, Circuit Court, and Juvenile Court.

This alternative proposes that LAB operate a deviated fixed-route from La Crosse to Boydton (see Figure 4-1). The route would run Monday through Thursday, arriving in Boydton by 9:00 a.m. and returning at 3:00 p.m., to coincide with Mecklenburg County Court and Health Department schedules. The route would require an additional Section 5311 vehicle and two part-time drivers. The vehicle would then be based out of LCAAA South Hill and available for demand-response requests for the approximately five hours in between runs, or for other route deviation services that might eventually be implemented (Chase City to Boydton, or Clarksville to Boydton, for example—or even for additional frequencies between Boydton and South Hill). Time points along the route is shown in Table 4-2.

Figure 4-1: Deviated Fixed Route- La Crosse, South Hill, Boydton

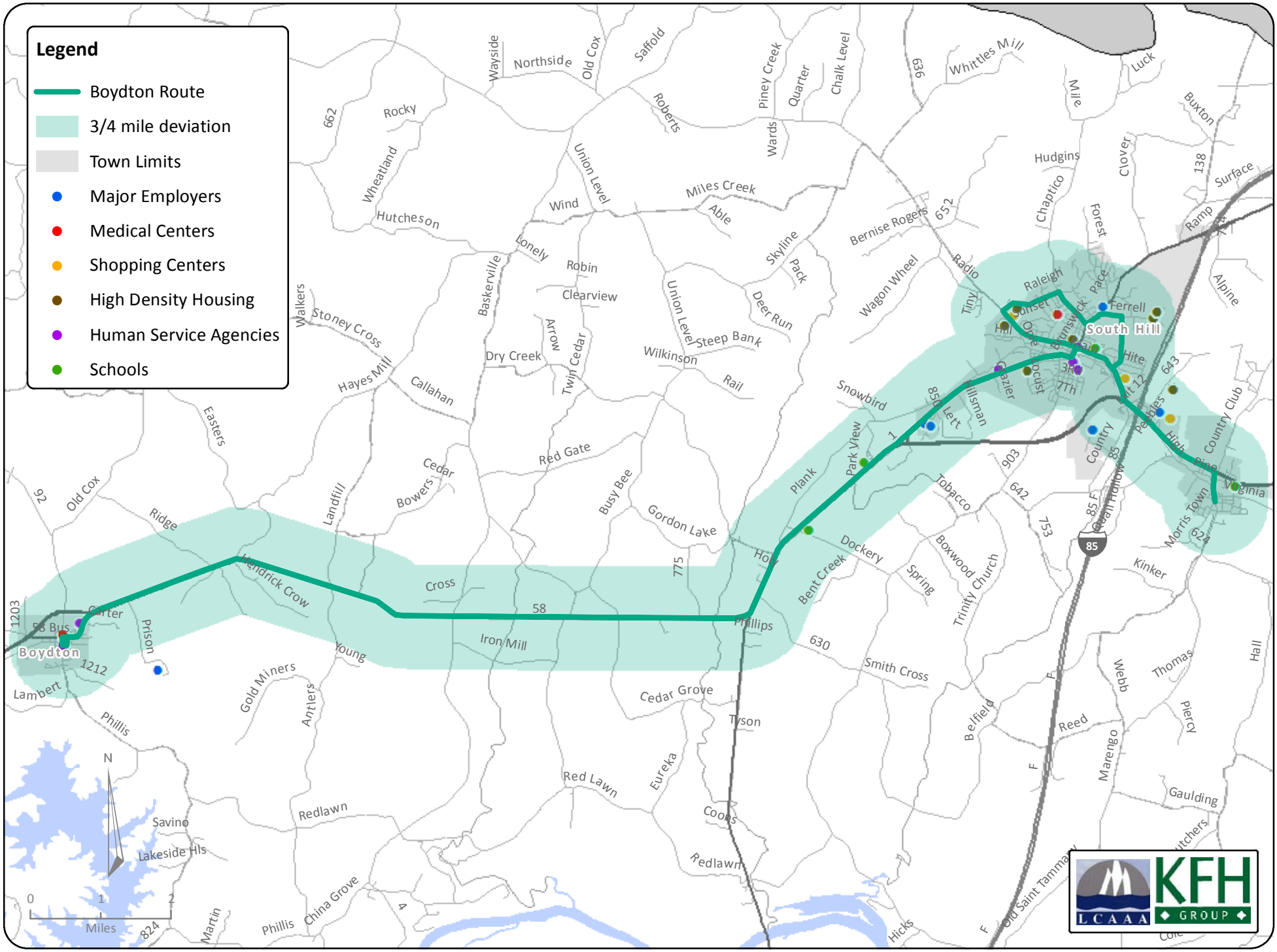


Table 4-2: Time Points for Constrained Alternative #2

7:35a.m.	LCAAA South Hill	2:30 p.m.	LCAAA South Hill
7:45a.m.	La Crosse- Main St & College St	3:00 p.m.	Boydton- Madison St & Washington St
8:05a.m.	South Hill- E Ferrell & N Mecklenburg Ave	3:20 p.m.	Big Fork
8:15a.m.	South Hill- W Atlantic and Raleigh Ave	3:35 p.m.	South Hill- E Danville St & N Mecklenburg Ave
8:20a.m.	South Hill- E Danville St & N Mecklenburg Ave	3:40 p.m.	South Hill- W Atlantic and Raleigh Ave
8:35a.m.	Big Fork	3:50 p.m.	South Hill- E Ferrell & N Mecklenburg Ave
9:00a.m.	Boydton- Madison St & Washington St	4:10 p.m.	La Crosse- Main St & College St
9:25a.m.	LCAAA South Hill	4:20 p.m.	LCAAA South Hill

Advantages

- Provides transit to key services at the County seat, as HART already does for Halifax.
- Responds to some unmet service requests as reported by LCAAA staff. Approximately 2% to 5% of LCAAA's calls are requests for travel to Boydton.
- Service to Boydton may prompt other local officials to consider supporting LCAAA's transportation services, potentially being an opportunity for collaboration between the Towns and the County.
- Potential for additional mobility at stops between South Hill and Boydton, such as Big Fork.

Disadvantages

- Ridership may be limited as few trip generators are located in Boydton beyond the critical County services noted above.
- Assumes local contribution from the Town of Boydton/or Mecklenburg County.
- Limited frequency may deter riders.

Expenses and Funding Sources

- The mileage and fuel involved in operating a Boydton route may mean slightly higher costs per hour than LAB and HART's current $22.16 average. Using the operating cost per hour of the deviated fixed-route BABS

Brunswick Express ($25.37), four hours of service four days per week would cost about $20,000 annually in operating expenses (796 revenue hours). An additional five hours of demand-response service Monday through Thursday during the mid-day period between runs to Boydton (at $22.16) would cost about $22,000 annually (995 revenue hours).

- With an average farebox recovery of 3% (based on BABS Brunswick Express), the net deficit for deviated fixed-route service to Boydton plus mid-day demand-response service would be about $41,000.
- It is proposed that this deficit be split in the same manner as the current net deficit, which is up to 50% Federal Section 5311, 15% state, and 35% local.
- Approximately $50,000 would be required in capital costs for an additional vehicle.
- Capital costs would be split 80% federal, 13% state, and 7% local.

Ridership

- Ridership on a deviated fixed-route to and from Boydton is likely to be similar to ridership on the BABS Brunswick Express (2.02 trips per hour). Given a four hour daily route Monday through Thursday, this would result in about eight additional passenger trips per day or 1,600 annual passenger trips. An additional 2,500 passenger trips could be added at LAB and HART's average ridership of 2.5 passenger trips per hour during the five hour mid-day period between runs to Boydton.

Land Use

- Service to Boydton would complement the Town's efforts to maintain a compact and accessible historic downtown.

Constrained Alternative #3: Increased Marketing and Information

Results from the general public survey suggest that although the majority of Lake Country residents are aware of LCAAA's services, many do not know if it is actually available to them. LCAAA's role as a provider of senior and non-emergency Medicaid transportation in addition to LAB and HART is likely a source of this confusion regarding eligibility restrictions. LAB vehicles in particular are almost indistinguishable as general public transportation, unlike the more brightly colored HART vehicles.

This proposal calls for additional funding to increase the promotion of LCAAA's general public services (currently LAB and HART) and focus on the fact that they are open to and usable by anyone without eligibility restrictions. This effort could also be

used to promote any future additional general public services. Suggested marketing initiatives include signage for LAB vehicles with the LAB logo and phone number. Brochures with service hours, fares, and LCAAA contact information could also be distributed with approval from local businesses, libraries, etc. Though word of mouth and referrals from human service agency staff will likely continue to be the primary means of marketing, signage and brochures would help alert the general public to LAB and HART's services.

Advantages

- Improves the visibility of LAB and HART to all residents of their service areas.

Disadvantages

- The only disadvantage is cost.

Expenses and Funding Sources

- The cost of printed materials and vehicle signage could range from $5,000 to $10,000, adjusted as needed.
- Printing and reproduction costs are part of LCAAA's operating budget, while vehicle signs are capital items. Both could be funded through typical funding ratios.

Ridership

- Providing more information about LAB and HART for the public and increasing the presence in the community may result in a small increase in ridership, but predicting this change is difficult.
- Additional knowledge about the availability of transit to the broader community could result in more support for transit even among non-users.

Land Use

- This proposal would have little to no impact on land use per se, though measures such as creation of a designated stop location in town, or signage, could increase the visible presence of transit in the community.

Constrained Alternative #4: Offer Riders a Shopping/Mobility Aide to Assist with Packages and Boarding

LCAAA's current policy of allowing riders to transport only what they can carry and control by themselves ensures the safety of both riders and drivers, while the vehicle is in motion. Despite this policy's intent, community members have expressed a desire for door-to-door assistance with multiple packages. In addition, some of Lake Country's transit dependent population may be reluctant to use LAB or HART due to mobility limitations that make using a bus or van difficult. Over a quarter of general public survey respondents who did not use any form of transit cited limited mobility as a cause.

This alternative provides a senior shopping/mobility aide two days a week for both HART and LAB, addressing community concerns and increasing the accessibility of the service. The aide would ride for five hours during peak shopping times (10:00 a.m. to 3:00 p.m.) of the designated days, and interested riders would have the opportunity to plan their trips for this time. The designated times could be adjusted so as not to occur during peak ridership times.

Advantages

- Responds to an articulated rider need for more personalized service.
- Increases the utility of LAB and HART for essential shopping.
- Extends service to a wider base of Lake Country residents in need of transportation.

Disadvantages

- This alternative adds to ongoing operating expenses, due to both the cost of an aide's salary and a slightly decreased number of passenger trips per hour (accounting for the possibility of additional time per stop).
- A mobility aide may be unable to assist multiple riders at one time, or a single rider with multiple packages. Conversely, the frequency of riders requesting assistance may be inconsistent and result in slack time for the aide.
- Door-to-door assistance may increase LCAAA's liability.

Expenses and Funding Sources

- A part-time mobility aide is likely to earn about $10 per hour (about $10,000 annually).

- This expense could be covered through DRPT's Senior Transportation Grants program. Senior Transportation Grants are typically up to $20,000 in state funding for projects like senior shopping, travel training, and senior outings.

Ridership

- Providing a mobility aide for LAB and HART may result in a small increase in ridership.

Land Use

- This proposal would have little to no direct impact on land use, though again, measures that allow transit dependent persons to remain in their homes and patronize local businesses support efforts to redevelop and enhance the towns.

Constrained Alternative #5: Create a Complementary Volunteer Driving Program

LCAAA could also respond to community requests for more personalized service through a corresponding volunteer driving program. Volunteer driving programs formalize traditional networks of transportation support from family, friends, neighbors, and congregations. Volunteers provide rides in their own vehicles and can offer door-through-door service impractical for demand-response operations.

The additional revenue hours generated by a volunteer driver program largely depend on volunteer recruitment and retention. A volunteer program would serve specific counties or towns, or within a radius of town limits. LCAAA would set fares for the service and reimburse volunteers for mileage. To reduce administrative burden, LCAAA could stipulate that riders with the need or preference for a volunteer driver work with staff to identify and recruit potential volunteers.

Volunteer driver programs have been implemented in other rural systems in Virginia, including Mountain Empire Older Citizens and Bedford County (Bedford Ride). DRPT is supportive of volunteer driver programs, and is working to address potential concerns about risk management and make sure that volunteers are covered.

Advantages

- Responds to an articulated rider need for more personalized service.
- Could provide mobility options for Lake Country residents outside of town limits, dependent on scope.

- Utilizing volunteers would increase service availability without increased expenses of driver salaries and vehicle upkeep.

Disadvantages

- Volunteer recruitment, screening, and training are significant administrative burdens.
- The availability of transportation may be inconsistent due to the nature of volunteer schedules and commitment.
- Door-to-door assistance may increase LCAAA's liability.
- Insurance coverage concerns may discourage volunteerism.

Expenses and Funding Sources

- The costs associated with a volunteer driver program would primarily be administrative and part of LCAAA's operating budget. An additional full time volunteer coordinator may be necessary (about $30,000 annually), scaled back to half-time after the program's launch.
- LCAAA would offer to reimburse volunteers up to the charitable rate ($.14 per mile) for mileage.
- Similar to the shopping/mobility aid expenses, the expenses involved in a volunteer driving program could be covered through DRPT's Senior Transportation Grants program.

Ridership

- A volunteer driver program may result in a small increase in ridership depending on program parameters.

Land Use

- This proposal would have little to no direct impact on land use, though again, measures that allow transit dependent persons to remain in their homes and patronize local businesses support efforts to redevelop and enhance the towns.

VISION ALTERNATIVES

Vision Alternative #1: County-wide Demand-Response Service

LAB and HART currently operate within the town limits of South Hill, La Crosse, Brodnax, South Boston, and Halifax. Except for the BABS route through Alberta and Lawrenceville, the general public of greater Lake Country has no access to transit. The community survey results reflect this situation, as the majority of respondents cited a need for additional or improved public transportation in the region, primarily in Halifax and Mecklenburg County.

This alternative proposes that LCAAA extend LAB and HART service to all of Lake Country. In FY10, LAB and HART had trips per capita rates of .9 and .6, respectively. A conservative estimate of demand can be developed by using a rate of .6 trips per capita for county-wide demand-response service, which would result in an estimated annual demand of 41,000 additional trips in the three counties, given the current County populations. At two trips per hour (based on Bay Aging's FY08 county-wide demand-response rate of 2.35 trips per hour) on the current 8:15 a.m.–4:30 p.m. schedule, it would take about 5,200 additional vehicle service hours in Brunswick County, 8,100 in Halifax County, and 7,250 in Mecklenburg County to serve this demand. Assuming annual vehicle availability of approximately 1,600-1,800 vehicle hours per vehicle per year, and a spare ratio of 20%, three additional vehicles would be needed in Brunswick County, five in Halifax County, and four in Mecklenburg County (a total of ten in service and two spares).

County-wide demand-response service would then be zoned in order to manage demand and maintain productivity. The additional Halifax County vehicles would serve the northwest quadrant of the County (bounded roughly by Mountain Road and Route 501/LP Bailey Memorial Highway) three days per week and the balance of the County two days per week. The additional Mecklenburg vehicles would serve the northern portion of the county daily in the mornings, traveling through Chase City and Boydton to South Hill and returning in the afternoons. The additional Brunswick vehicles would serve the corridor bounded by 58 to the south and Route 1/Liberty Road three days per week, travelling westward to South Hill in the mornings and returning in the afternoons. They would serve the balance of the County two days per week.

Advantages

- Increases transportation choice and mobility throughout Lake Country.
- May enable transfers to the BABS system.

Disadvantages

- Assumes local contributions from Halifax, Mecklenburg, and Brunswick County.
- Expensive to implement.

Expenses and Funding Sources

- Approximately 21,000 additional service hours at $34 per hour (based on Bay Aging's FY08 $34.37 per hour multi-county demand-response service) would cost about $700,000 annually. These costs would include additional drivers and administrative staff.
- With an assumed farebox recovery of 5% (also Bay Aging FY08), the net deficit for this expansion would be about $666,000. The deficit would be split up to 50% Federal Section 5311, 15% state, and 35% local.
- Approximately $600,000 would be required in capital costs for ten primary and two spare vehicles, split 80% federal, 13% state, and 7% local.

Ridership

- Estimated additional annual ridership is likely to be about 41,000 trips, based on a trip per capita rate of .6.

Land Use

- This proposal would have little to no direct impact on land use.

Vision Alternative #2: Town-wide Deviated Fixed-Route Service

As discussed previously, stakeholder input suggests that the public perceives LCAAA's demand-response service as exclusively for the elderly or disabled. Several Lake Country officials noted that fixed-route service with designated stops and time points may promote awareness of LCAAA transportation and thus increase mobility for the general public. This proposal responds to that issue by switching LCAAA's service from demand-response to deviated fixed-route (see Figures 4-2 and 4-3). Service remains within the town limits of South Hill, La Crosse, Brodnax, South Boston, and Halifax. Two routes with 75-minute headways run seven times per day (7:30 a.m., 8:45 a.m., 10:00 a.m., 11:15 a.m., 12:30 p.m., 1:45 p.m., and 3:00 p.m.), deviating up to ¾ of a mile by advanced request. This schedule would result in 8.75 revenue hours per day, or 2,196 revenue hours annually for each system. Approximate time points are shown in Table 4-3.

Figure 4-2: Deviated Fixed Route- South Hill, La Crosse, Brodnax

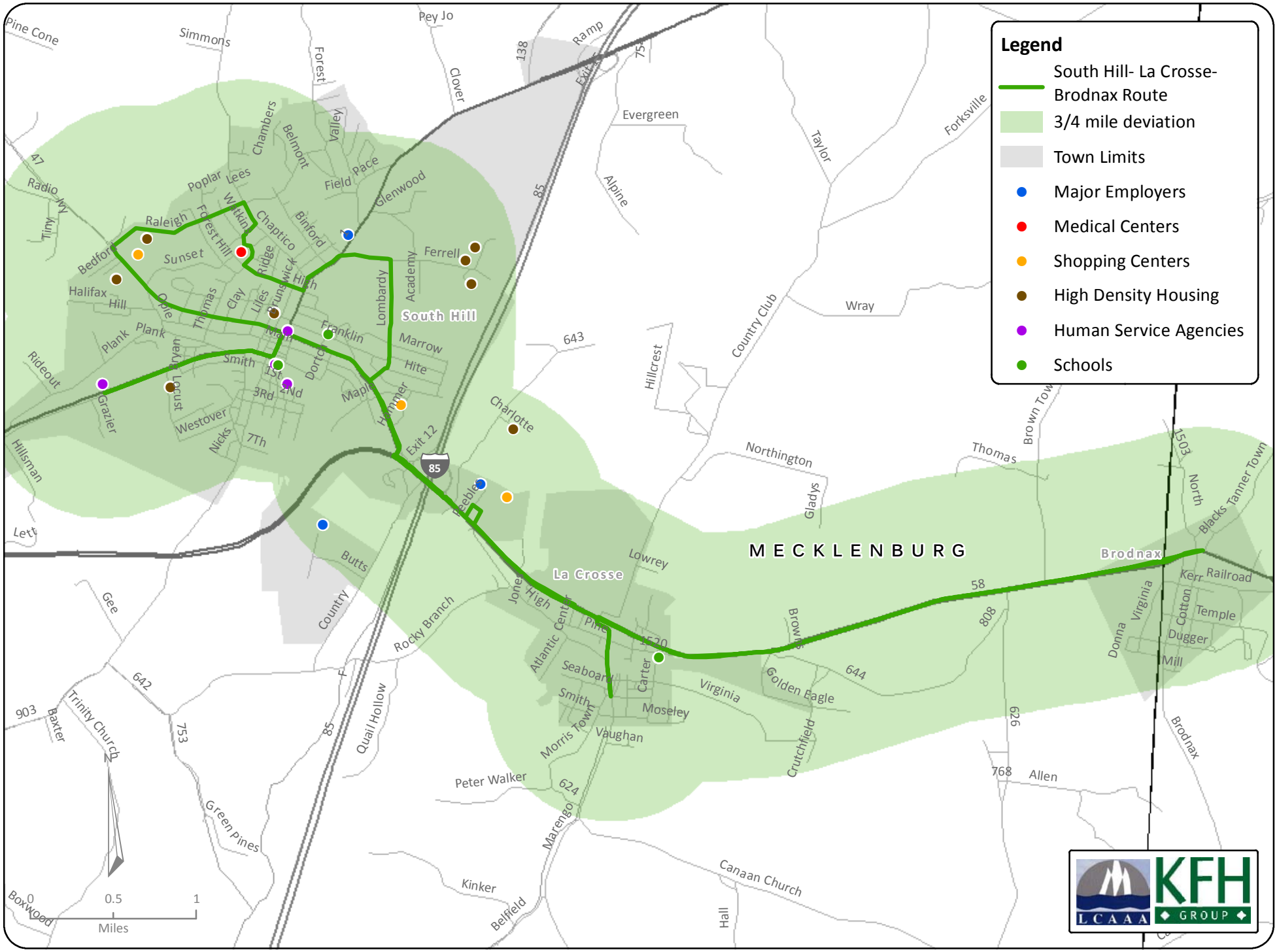


Figure 4-3: Deviated Fixed Route- Halifax, South Boston

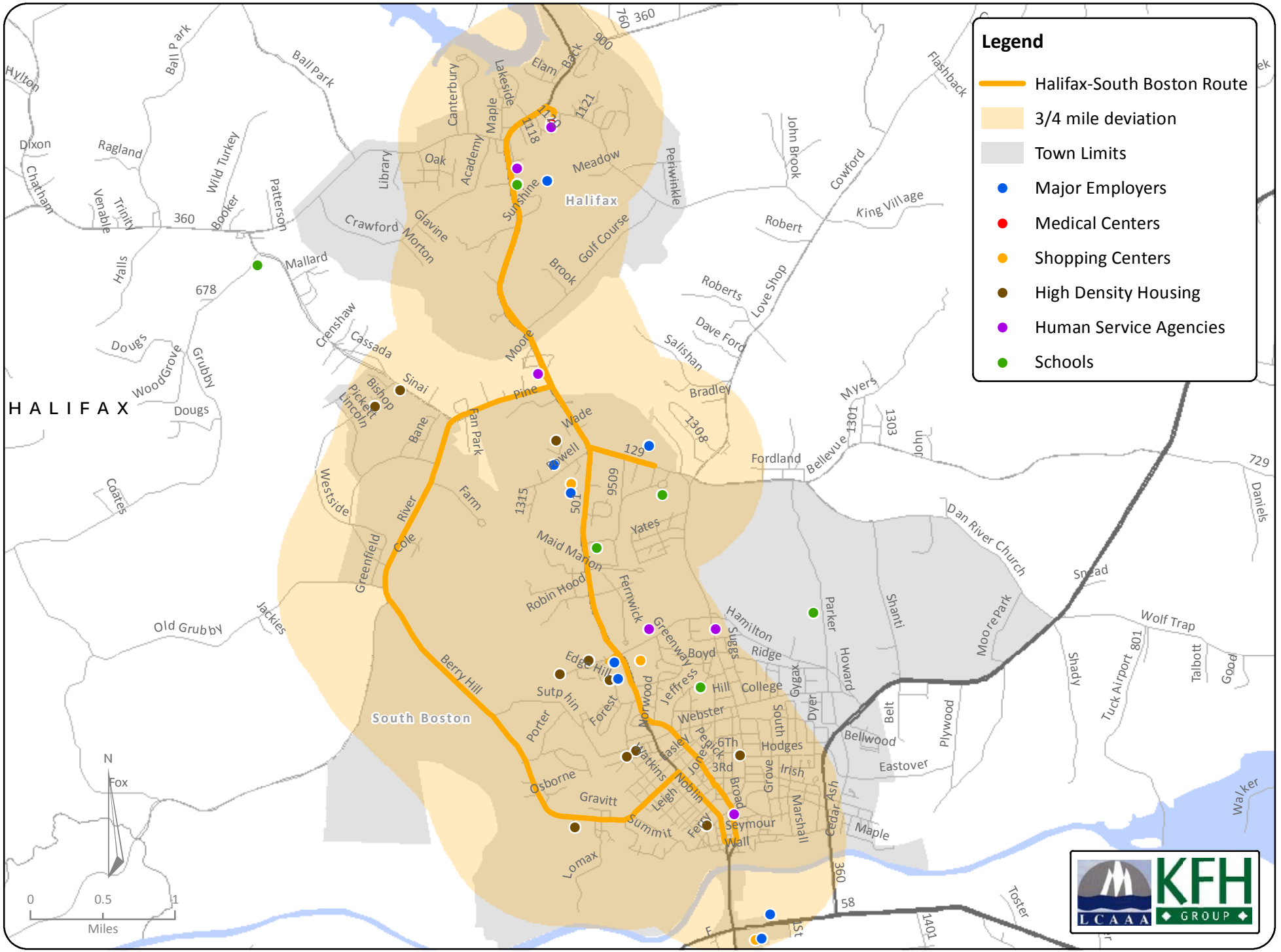


Table 4-3: Time Points for Vision Alternative #2

South Boston/Halifax Route		South Hill/La Crosse/Brodnax Route	
7:30a.m.	LCAAA South Boston/Halifax	7:30a.m.	LCAAA South Hill
7:35a.m.	River Rd and Berry Hill Rd	7:50a.m.	Brodnax- 58 and High St
7:50a.m.	Edmunds St and Wilborn Ave	8:00a.m.	La Crosse- Main St & College St
8:10a.m.	Halifax Regional Hospital	8:05a.m.	Wal-Mart
8:20a.m.	Wal-Mart	8:20a.m.	South Hill- Memorial Health Center
8:30a.m.	Halifax Health Department	8:35a.m.	South Hill- E Danville St & N Mecklenburg Ave
8:40a.m.	LCAAA South Boston/Halifax	8:40a.m.	LCAAA South Hill

Advantages

- Set stops and time points may attract new riders.
- Maintaining current service area limits eliminates need for additional local contributions.
- Seven round trips at 75 minute headways would result in 30 minutes of additional service per day.

Disadvantages

- As noted in Chapter 3, only three block groups in Lake Country exceed 1,000 persons per square mile. Deviated fixed-route service may not be appropriate given this population density.
- Relative to its demand-response services, LAB had lower ridership and productivity when it operated as a fixed-route, fixed schedule service in its early history.

Expenses and Funding Sources

- This alternative assumes similar operating costs to LAB and HART's current demand-response service ($22.16 in FY10). An additional ½ hour of service per day to achieve seven 75-minute headways would cost about $2,790 per system annually (126 revenue hours each).
- With an average farebox recovery of 3% (based on BABS Brunswick Express), the net deficit would be an additional $2,710 for each system.

- It is proposed that this deficit be split in the same manner as the current net deficit, which is up to 50% Federal Section 5311, 15% state, and 35% local.

Ridership

- Ridership on deviated fixed routes within the current system service area is likely to be similar to or slightly higher than current ridership. Similar route-deviation systems in small towns in Virginia generally have higher productivity than the pure demand-responsive services provided by LAB and HART, with boardings per hour generally in the range between four and six trips per hour. Generally demand-responsive systems shift to a route-deviation service design as ridership grows and it becomes more efficient to service the higher demand with a scheduled service.

Land Use

- Designated stops/time points may complement land uses and encourage pedestrian activity within town limits.

Vision Alternative #3: Deviated Fixed-Route Service in Chase City

As described in Chapter 3, the 2010 *Chase City Public Transit Feasibility Study* recommended deviated fixed-route service for Chase City, running every 45 minutes from 7:30 a.m. to 5:00 p.m. This alternative proposes that LCAAA initiate the service, resulting in about 2,470 additional annual revenue hours. The Feasibility Study determined that deviated fixed-route service was preferable to a demand-response alternative given Chase City's available resources and transit needs. The route could expand to Boydton and/or South Hill in the long-term (see Vision Alternative 5) depending on interest and support.

Advantages

- Increases transportation choice and mobility for Chase City residents.
- Compared to other alternatives for Chase City, a deviated fixed-route service encourages ridership through schedule consistency, frequency, and a concentrated service area.
- Potentially stimulates economic development in downtown Chase City.

Disadvantages

- Assumes local contribution from the Town of Chase City.
- Potentially expensive to implement.

Expenses and Funding Sources

- All figures are drawn from the Feasibility Study, which derived costs from the 2009 BABS TDP. Average operating costs for its deviated fixed-route systems were calculated at $2.20 per mile and $35 per hour.
- Deviated fixed-route service for Chase City would be about $86,450 annually in operating costs. This would include staffing of a minimum of three part-time drivers. LCAAA would assume administrative and maintenance duties with existing personnel.
- With an assumed fare of $.50 per one-way trip and average farebox recovery of 2.7%, the net deficit for this expansion would be $84,050. The deficit would be split 50% Federal Section 5311, 18% state, and 32% Town of Chase City.
- Approximately $100,000 would be required in capital costs. This would include a primary and spare vehicle, mobile radios, farebox, bus shelters, and bus stop signage.
- Capital costs would be split 80% federal, 10% state, and 10% local.

Ridership

- Estimated additional annual ridership is likely to be about 4,800 trips, based on ridership on the BABS Dinwiddie route.

Land Use

- The high population density of Chase City relative to the surrounding area is compatible with new service within town limits. To further support transit use, the Feasibility Study recommended that the Town promote existing concentrations of employment and housing downtown and consider implementing parking meters.

Vision Alternative #4: South Boston-South Hill Regional Connector

LAB and HART's operations currently do not allow for connections between services. A regional connector on US 58 would accomplish this goal, laying the foundation for even more expansive county-wide deviated fixed-route service (see Vision Alternative 5). This alternative proposes two round trips per day of deviated fixed-route service between South Hill and South Boston, Monday through Thursday. Traveling westbound, a LAB vehicle on the La Crosse to Boydton route (Constrained Alternative 2) would continue to South Boston via Clarksville. Devoting one LAB vehicle to complete the route would result in about nine additional revenue hours per day, or about 1,800 annual revenue hours. Approximate time points are shown in Table 4-4.

Table 4-4: Time Points for Vision Alternative #4

7:35 a.m.	LCAAA South Hill	12:10 p.m.	LCAAA South Hill
9:00 a.m.	Boydton (via La Crosse and South Hill stops)	1:30 p.m.	Boydton (via La Crosse and South Hill stops)
9:30 a.m.	Clarksville	2:00 p.m.	Clarksville
10:15 a.m.	LCAAA South Boston	2:45 p.m.	LCAAA South Boston
11:00 a.m.	Clarksville	3:30 p.m.	Clarksville
11:30 a.m.	Boydton	4:00 p.m.	Boydton
12:00 p.m.	LCAAA South Hill	4:30 p.m.	LCAAA South Hill

Depending on vehicle availability, Clarksville could serve as a transfer point, with a HART vehicle (continuing an in-town deviated fixed-route described in the next alternative) serving the South Boston-Clarksville portion of the route. Pending ridership and available resources, LCAAA could also coordinate the South Boston-South Hill deviated fixed-route with a South Hill-Lawrenceville deviated fixed-route. This would increase regional connectivity to an even greater extent, allowing for transfers to BABS in Lawrenceville.

Advantages

- Serves inter-County trips.
- Responds to a need articulated via passenger surveys. When asked where they would like to go on a regular basis, but cannot due to lack of public transportation, passengers named South Boston (#1), Clarksville (#2), and Boydton (#3).
- Increases transportation choice and mobility for those currently without service in Boydton and Clarksville.
- A possible South Hill-Lawrenceville route would provide access to St. Paul's College in Lawrenceville and Southside community College in Alberta.

Disadvantages

- Assumes local contributions (Town of Boydton and Clarksville, Mecklenburg and Halifax County).
- Cost of implementation.
- Limited commuter demand between South Boston and South Hill, combined with the availability of most services in both places, is likely to result in low demand for end-to-end travel on this route.

Expenses and Funding Sources

- Using the operating cost per hour of the deviated fixed-route BABS Brunswick Express ($25.37), nine hours of service four days per week would cost about $45,500 annually in operating expenses (1,800 revenue hours).
- This alternative could replace Monday through Thursday demand-response service in South Hill, La Crosse, and Brodnax (rather than operating in combination), resulting in significantly lower incremental costs.
- With an average farebox recovery of 3% (based on BABS Brunswick Express), the net deficit would be about $44,000, split in the same manner as the current net deficit.
- Approximately $50,000 would be required in capital costs for an additional vehicle.
- Capital costs would be split 80% federal, 13% state, and 7% local.

Ridership

- Ridership on a deviated fixed-route to and from Boydton is likely to be similar to ridership on the fixed-route BABS Brunswick Express (2.02 trips per hour). Given a nine-hour daily route Monday through Thursday, this would result in about 18 additional passenger trips per day or 3,600 annual passenger trips.

Land Use

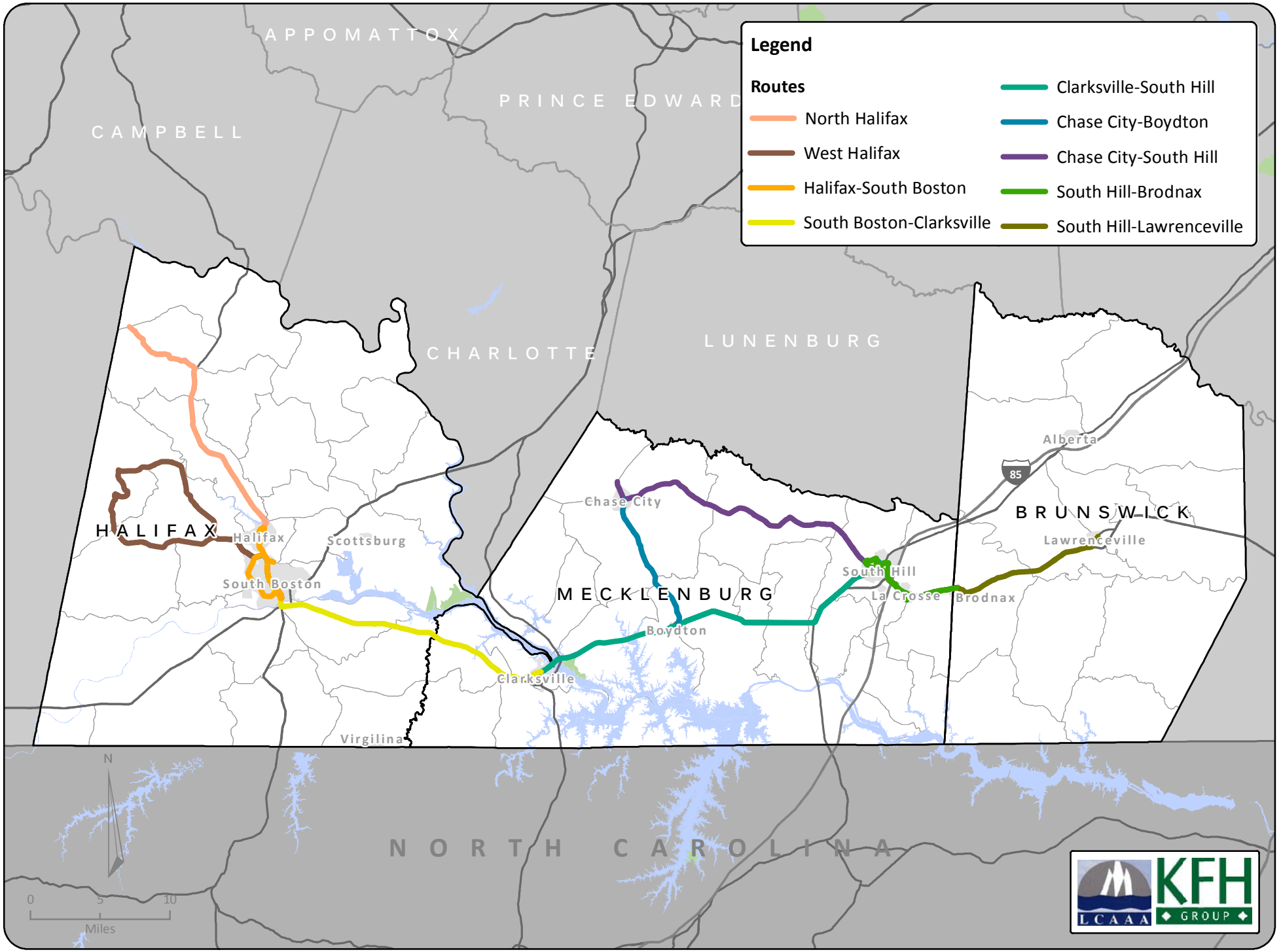
- Designated stops/time points in Boydton and Clarksville may complement land uses and encourage pedestrian activity within these downtowns.

Vision Alternative #5: County-wide Deviated Fixed-Route Service

As described in the previous alternatives, LAB and HART service is geographically limited. This alternative builds on Vision Alternatives 2 and 4 by proposing a deviated fixed-route network connecting the entire Lake Country area (see Figure 4-4). The routes that make up the network would function independently, added as funding allows.

The network would run Monday through Friday, two round trips per day for connector routes and seven round trips per day for the in-town routes. The connector route service frequency is comparable to the multi-county deviated fixed-route service offered on BABS Brunswick Express (M-Th, two round trips per day). This alternative includes nine routes, resulting in about 6,700 additional annual revenue hours (10,843 total). Each route would require one vehicle. With a spare ratio of 20%, nine additional vehicles would be needed (seven in service and two spares).

Figure 4-4: Deviated Fixed Route Network for Lake Country, Virginia



- West Halifax (40 miles round trip)
- North Halifax (50 miles round trip)
- Halifax/South Boston (15 miles round trip)
- South Boston/Clarksville (50 miles round trip)
- Clarksville/South Hill (60 miles round trip)
- Chase City/Boydton (20 miles round trip)
- Chase City/South Hill (45 miles round trip)
- South Hill/La Crosse/Brodnax (15 miles round trip)
- South Hill/Lawrenceville (35 miles round trip)

Advantages

- Set stops and time points may attract new riders.
- Increases transportation choice and mobility throughout Lake Country.
- May enable transfers to the BABS system.

Disadvantages

- Expensive to implement.

Expenses and Funding Sources

- The cost of printed materials and vehicle signage could range from $5,000 to $10,000, adjusted as needed.
- Using the operating cost per hour of the deviated fixed-route BABS Brunswick Express ($25.37), 10,843 annual revenue hours would cost about $275,000 annually in operating expenses, less the cost of LAB and HART's current service ($107,030 in FY10).
- With an average farebox recovery of 3% (based on BABS Brunswick Express), the net deficit would be about $266,800, split in the same manner as the current net deficit.
- Approximately $50,000 would be required in capital costs for each additional vehicle. A total of $450,000 would be split 80% federal, 13% state, and 7% local.

Ridership

- Estimated annual ridership (based on BABS Brunswick Express 2.02 trips per hour) is likely to be about 21,900 trips, or 11,290 greater than current service.

Land Use

- Designated stops/time points may complement current land uses and encourage pedestrian activity.

SELECTED ALTERNATIVES

This section has provided a number of alternatives for LCAAA to consider for potential implementation over the next six years. Table 4-5 provides a summary of these proposals. While the constrained alternatives seem modest in comparison to the vision alternatives, they still represent a significant increase in transit services and expenses. Given available resources and the nature of the service area, the constrained alternatives could be considered as building blocks towards a transit system that provides a higher level of mobility.

These alternatives were presented to the TDP Steering Committee for review and comment. The Committee decided which alternatives should move forward to the six-year plan as part of the constrained plan, and which should be included in the vision plan.

The group reviewed the advantages, disadvantages, costs, and possible ridership of each financially constrained and vision alternative, and decided on the following:

Financially Constrained Alternatives (in order of proposed phasing)

- **Maintain Current Service, Capital Replacement**

- **Increased Marketing:** Money is available now through the Federal Tarnsit Administration's Rural Transit Assistance Program (RTAP) (up to $2,500) for marketing.

- **Expanded Service Hours/Days:** The group agreed on starting with an expansion of weekday hours. This is more important for the transit dependent who have appointments and employment trips. Either a morning hour would be added first with an afternoon hour in future years, or both morning and afternoon hours at the same time. Another option is to have two vehicles operating during the morning peak. Saturday service is less of a priority (perhaps in Year 4).

Table 4-5: Summary of Alternatives

		Description	Incremental Expenses and Funding	Ridership	Land Use Impacts
	Service Alternatives- Constrained				
1	Expanded service hours and/or days	1 hour additional am and/or pm service; half or full day Saturday service	Annual Operating Cost: $2K-$11K per system; Capital Cost: n/a	200-1K additional trips per system	Supportive of efforts to focus development within the more urban areas of Lake Country
2	LAB service to Boydton	M-Thurs deviated fixed route service from La Crosse/South Hill to to key services in Boydton	Annual Operating Cost: $42K; Capital Cost: $50K	4K additional trips	Compatible with land uses in downtown Boydton. Links County seat (courts and health services) with towns
3	Increased marketing and information	Printed materials and signage to increase general public awareness	Annual Operating Cost: $5K-$10K, but variable; Capital Cost: n/a	May encourage ridership	Increases visible presence of transit
4	Shopping/mobility aides	Aides 2 times/week during peak shopping hours	Annual Operating Cost: $10K aide salary; Capital Cost: n/a. Possible funding through DRPT Senior Transportation Grant	May encourage ridership	Indirectly supports town redevelopment and enhancement
5	Volunteer driving program	Volunteer drivers to complement current demand response service	Annual Operating Cost: $30K volunteer coordinator salary; Capital Cost: n/a. Possible funding through DRPT Senior Transportation Grant	May encourage ridership	Indirectly supports town redevelopment and enhancement
	Service Alternatives- Vision				
1	County-wide demand response service	Expansion of demand-response to all of Lake Country	Annual Operating Cost: $700K; Capital Cost: $600K	41K additional trips	n/a
	Deviated fixed route service:				
2	Town-wide	A South Hill-La Crosse-Brodnax route and a South Boston-Halifax route; 75 minute headways, M-F, 7 times/day; replaces demand-response service	Annual Operating Cost: $3K per system; Capital Cost: n/a	May encourage ridership	Designated stops may complement land uses within town limits
3	Within Chase City	LCAAA initiated service within Chase City	Annual Operating Cost: $86K; Capital Cost: $100K	5K additional trips	Compatible with land uses in downtown Chase City

Table 4-5: Summary of Alternatives

		Description	Incremental Expenses and Funding	Ridership	Land Use Impacts
4	South Boston to South Hill	M-Thurs deviated fixed-route service from La Crosse to South Boston	Annual Operating Cost: $46K; Capital Cost: $50K	4K additional trips	Designated stops may complement land uses within Boydton and Clarksville
5	County-wide network	Deviated fixed-route network; builds on Vision Alternatives 2 and 4. Additional components broken down below	Annual Operating Cost: $275K; Capital Cost: $450K	22K total trips	Designated stops may complement land uses throughout Lake Country
	West Halifax Route	M-F, two round trips per day	Annual Operating Cost: $50K; Capital Cost: $50K	4K additional trips	
	North Halifax Route	M-F, two round trips per day	Annual Operating Cost: $22K; Capital Cost: $50K	2K additional trips	
	Chase City/Boydton Route	M-F, two round trips per day	Annual Operating Cost: $10K; Capital Cost: $50K	1K additional trips	
	Chase City/South Hill Route	M-F, two round trips per day	Annual Operating Cost: $19K; Capital Cost: $50K	2K additional trips	
	South Hill/Lawrenceville Route	M-F, two round trips per day	Annual Operating Cost: $16K; Capital Cost: $50K	1K additional trips	

- **Mobility Aides:** The group decided on starting with mobility aides to assist passengers on Section 5310 funded services for the senior population. If in future years the aides were added to LAB and HART services, they could be made available during slower periods of the day so that productivity would not be adversely affected. LCAAA could use drivers that are already being paid as the aides, or it could recruit boy scouts, youth groups, or high school clubs. Volunteers and paid staff would need training, and liability coverage for the volunteers confirmed.

- **Town-wide Deviated Fixed Routes:** This could be an easy transition since it would mean adding stops to routes that are already somewhat established (DRPT can provide technical assistance). The shift could happen for LAB and HART at different times. Deviated fixed routes (rather than fixed routes with complementary demand-response) avoid stringent Americans with Disabilities Act requirements. LCAAA could charge extra for deviation requests to prevent abuse. This transition would likely occur late in the planning period, perhaps Year 5 or 6.

Vision Alternatives (in order of proposed phasing):

- **LAB Service to Boydton:** This option is visionary but can always be transferred to constrained and implemented earlier.

- **Chase City Deviated Fixed-Route:** There may be more local support among Chase City residents to re-evaluate the recommendations of the Feasibility Study and provide the local match contribution if they are aware of the success of similar services in South Hill, South Boston, or other comparably sized towns in Virginia.

- **County-wide Deviated Fixed-Route Network:** This would include the South Boston-South Hill route (which should not be a stand alone alternative because it involves a lot of miles for a small market).

- **Fill in with County-wide Demand-Response Service Across the Region:** This service would provide a transportation option for those living outside of town limits and outside of the route deviation service area connecting the major towns.

These alternatives will be included in the operations plan, the capital plan, and the financial plan that make up the next three chapters of the TDP.

Chapter 5

Operations Plan

INTRODUCTION

The development of the LCAAA TDP has included four technical memoranda (documented in Chapters 1-4), which provided an overview of transportation in Lake Country; discussed goals, objectives, and standards; analyzed the need for transit services; and proposed financially constrained and vision alternatives for LCAAA to implement over the next six years. The process has been guided by LCAAA staff, with input from VDRPT and area stakeholders. Chapters 6 and 7 provide companion capital and financial plans.

This chapter provides the operations plan. It details the specific projects that LCAAA has chosen to implement, broken down into financially constrained and vision categories. While the former follow a six year timeline, the latter are presented in sequential phases, as the year of possible implementation is unknown. Including the vision projects, the TDP recognizes current financial constraints while allowing LCAAA to adapt to changing circumstances and consider accelerated implementation during its yearly reviews. Focusing first and foremost on the financially constrained category, LCAAA can both fulfill its broader mission as an AAA and better achieve its transportation program goals.

The operational changes included in this chapter include cost estimates that are based on the FY 2012 budgets submitted to DRPT by LCAAA for LAB and HART. These budgets are for the same number of service hours as operated in FY 2010 and FY 2011, but the amount is significantly higher. It includes an increase in labor costs, provision for higher fuel costs, and provision for higher repair costs (the vehicles are aging), with the result that the estimated operating cost for FY 2012 is $37.18, rather than the $22.16 per hour figure from FY 2010. LCAAA operating costs have generally been significantly less than the budgeted amount, but in order to be consistent with other DRPT TDPs and to be conservative, the costs estimated in this and subsequent chapters use the higher FY 2012 budget estimate as the base. This results in cost

estimates that are higher for some services than those shown in Chapter 4, which used the lower FY 2010 average actual cost. The operations plan includes the following projects:

- Financially Constrained

  1. Maintain current service (FY 2012 and subsequent years)
  2. Increased marketing and information (FY 2013)
  3. Expanded service hours/days (FY 2014-2016)
  4. Town-wide deviated fixed-route service (FY 2017)

- Vision

  1. LAB service to Boydton (Phase 1)
  2. Deviated fixed-route service within Chase City (Phase 2)
  3. County-wide deviated fixed-route service (Phase 3)
  4. County-wide demand-response service (Phase 4)

FINANCIALLY CONSTRAINED PROJECTS

Maintain Current Service with Capital Replacements (FY 2012 and Subsequent Years)

LAB and HART provide service Monday through Friday from 8:15 a.m. to 4:30 p.m. This project maintains current service and assumes timely vehicle replacements (included in Chapter 6).

In addition to maintaining current service, LCAAA could also consider establishing a volunteer shopping/mobility aide program for its Section 5310 services in FY 2012. Organizing volunteer aides responds to rider requests for door-to-door assistance with multiple packages. LCAAA could attempt to recruit and train area youth and retirees, launching a program that is less complex and costly than the senior shopping/mobility aide alternative proposed in Chapter 4. If successful, the program could be re-evaluated for expansion to LAB and HART in future years, if there is still a need for it on the public services.

- At the current level of service, LCAAA's operating expenses would increase by an assumed 3% rate of inflation each year over the FY 2012 budget cost figure used as the base.

- The operating deficit would be split up to 50% Federal Section 5311, 15% state, and 35% local. This assumption obviously depends on the continued availability of federal and state funding under the current programs.

- LAB and HART's two primary 2011 body-on-chassis buses would need replacement in FY 2016. The 2011 vehicles would then take the place of the 2006 predecessor vehicles for back-up and peak needs.

- For the 2016 buses, LCAAA could consider including on-board video cameras as part of the vehicle purchase. On-board cameras function as tools to investigate complaints, incidents, and accidents, and they may help to deter crime and increase rider perceptions of safety.

- Capital costs would be split 80% federal, 10% state, and 10% local.

- Ridership is likely to remain at its current level.

Increased Marketing and Information (FY 2013)

Results from the general public survey and stakeholder interviews suggest that although the majority of Lake Country residents are aware of LCAAA's service, many do not know if it is actually available to them. This project involves increased marketing of LCAAA's current general public services, focusing on the fact that LAB and HART are open to and usable by anyone without eligibility restrictions. Expanded vehicle signage and distribution of the LCAAA brochures with service hours, fares, and contact information would improve the visibility of LAB and HART to all members of the community.

- LCAAA can implement marketing efforts in FY 2013 through RTAP. Funding is available up to $2,500, with no required local match.

- Updates to LCAAA's marketing materials will be necessary every year following FY 2013, corresponding to implementation of expanded service hours and days. It is proposed that FY 2014, 2015, and 2016 include $500 for these expenses.

- In the event of a transition to deviated fixed-route service in FY 2017 (as described later in this chapter), LCAAA will also need to print schedules and route maps. The cost to design and print these materials is estimated to be $5,000, funded as operating expenses in FY 2017.

- Increased marketing may result in a small increase in ridership, but predicting this change is difficult. Additional community-wide knowledge of the services could result in more support for transit even among non-users.

Expanded Service Hours/Days (FY 2014-2016)

The desired improvements cited most frequently through the on-board survey were earlier morning, later afternoon, and weekend service. This project addresses rider concerns by adding an additional morning hour of service (FY 2014), followed by an additional evening hour of service (FY 2015), and finally half day (8:15 a.m. to 12:30 p.m.) Saturday service (FY 2016).

An expansion of morning weekday hours is the first priority to serve Lake Country's transit dependent population, as critical appointments and employment trips are likely to occur during this time. Pending driver feedback, the morning and evening hours planned for FY 2014 and 2015 could instead be implemented in 2015 as two morning hours overlapping LCAAA's current schedule (8:15 a.m. to 10:15 a.m.) This additional morning service would accommodate requests during LCAAA's peak. Drivers would operate the spare Section 5311 vehicles in this scenario, using Section 5310 vehicles as backups.

- The expansion results in about 251 additional revenue hours per system in FY 2014, 251 additional in FY 2015, and 221 additional in FY 2016.

- Using LAB and HART's fully allocated average operating cost per hour of $39.45 (FY14);[1] 251 additional revenue hours would cost about $9,900 for each system annually in operating expenses. Two more hours of service (502 revenue hours each) would cost about $10,200 (FY15). Half day service every Saturday (221 revenue hours each) would cost about $9,400 (FY16) for each system. No additional capital would be required.

- Maintaining the budgeted FY 2012 average farebox recovery of 10%, the increase in the net deficit would be about $8,910 (FY14) for each system for one additional hour of service, about $9,180 (FY15) for each system for two additional hours of service, and about $8,460 (FY16) for each system for half day Saturday service. Potentially the farebox recovery could increase somewhat, depending on ridership response.

[1] This hourly cost is the FY 2012 hourly cost of $37.18/hour with two years of projected inflation of 3%.

- It is proposed that this deficit be split up to 50% Federal Section 5311, 15% state, and 35% local. This assumption depends on the continued availability of federal and state funding under the current programs.

- Assuming an average ridership of two passenger trips per hour, an additional hour of service would generate an estimated 502 annual passenger trips per system, two additional hours would generate an estimated 1,004 annual passenger trips per system, and half day Saturday service would generate 442 annual passenger trips per system.

- For each of these service expansions, users will need to be informed through revised information flyers, advertisements, etc. Funding for printing and other expenses will be included for these marketing efforts.

Town-wide Deviated Fixed-Route Service (FY 2017)

As LCAAA's ridership increases, the system can grow more efficiently by transitioning to deviated fixed-route service. LCAAA's drivers already follow somewhat regular routes, and deviated fixed-route service has the advantages of predictable costs and increased public awareness. It also avoids the strict Americans with Disabilities Act (ADA) requirements of purely fixed-route service.

This project establishes deviated fixed routes within the town limits of South Hill, La Crosse, Brodnax, South Boston, and Halifax. Two routes with 75-minute headways would run eight times per weekday, deviating up to ¾ of a mile by advanced request. This schedule would fit within the expanded service hours (10.25 revenue hours per day) established in FY 2014 and 2015. If necessary, LCAAA could complete the transition from demand-response to deviated fixed-route at different times for LAB and HART. LCAAA could also increase fares for deviation requests to discourage abuse of this aspect of the service.

- This project assumes that deviated fixed-route service would operate within established service hours and at similar operating costs to LAB and HART's demand-response service.

- LCAAA should provide, as part of this option, bus stop signs at key stops along the deviated fixed routes (approximately 30 signs total). Bus stop signs are considered capital expenses and typically cost about $100 each, installed.

- Ridership on deviated fixed routes within the current system service area is likely to be higher than current ridership. Similar route-deviation systems in small towns in Virginia generally have higher productivity than the pure

demand-responsive services provided by LAB and HART, with boardings per hour generally in the range between four and six trips per hour.

VISION PROJECTS

The vision projects included in the TDP represent more ambitious and long-term actions for LCAAA. Though not set to specific fiscal years, the projects are phased in a logical order of expansion. Due to the undetermined timeline, all phases of the vision projects reflect FY 2012 budget cost levels of $37.18 per service hour.

LAB Service to Boydton (Phase 1)

As the Mecklenburg County seat, Boydton is the location of several key Lake Country destinations, including the courts, county offices, the Health Department, and medical and dental clinics. This project responds to need for transit service to the County seat by expanding LAB service on a deviated fixed-route from La Crosse to Boydton. The route would run Monday through Thursday and would require an additional Section 5311 vehicle and two part-time drivers. The vehicle would be based out of LCAAA South Hill and available for demand-response requests for the approximately five hours in between runs to Boydton, or for other route deviation services implemented in later phases. The use of the vehicle during the mid-day depends on when this service is implemented and what other service changes have taken place.

- Using the FY 2012 operating cost per hour of $37.18, 4 hours of service four days per week would cost about $29,595 annually in operating expenses (796 revenue hours). An additional five hours of demand-response service Monday through Thursday during the mid-day period between runs to Boydton would cost about $37,000 annually (995 revenue hours).

- Maintaining the budgeted FY 2012 average farebox recovery of 10%, the net deficit for deviated fixed-route service to Boydton plus mid-day demand-response service would be about $59,900.

- It is proposed that this deficit be split up to 50% federal Section 5311, 15% state, and 35% local.

- Capital costs for one additional vehicle would be split 80% federal, 10% state, and 10% local.

- Ridership on a deviated fixed-route to and from Boydton is likely to be similar to ridership on the BABS Brunswick Express (2.02 trips per hour). Given a four hour daily route Monday through Thursday, this would result in about eight additional passenger trips per day or 1,600 annual passenger trips. An additional 2,500 passenger trips could be added at LAB and HART's average ridership of 2.5 passenger trips per hour during the five hour mid-day period between runs to Boydton, if the vehicle is used to provide additional mid-day demand-response capacity.

Deviated Fixed-Route Service Within Chase City (Phase 2)

This project has LCAAA initiate the deviated fixed-route service recommended in the *2010 Chase City Public Transit Feasibility Study*. Operating from 7:30 a.m. to 5:00 p.m., the service results in about 2,470 additional annual revenue hours. The route could expand to Boydton and/or South Hill in Phase 3, depending on interest and support.

- Using the FY 2012 operating cost per hour of $37.18, deviated fixed-route service within Chase City would be about $92,000 annually in operating costs. This is similar to the cost cited in the Feasibility Study, which assumed $35 per hour.

- Chase City service would include staffing of a minimum of three part-time drivers. LCAAA would assume administrative and maintenance duties with existing personnel.

- The Feasibility Study assumes a farebox recovery of 2.7%. However, maintaining the budgeted FY 2012 average farebox recovery of 10%, the net deficit for this expansion would be about $82,700. The deficit would be split 50% Federal Section 5311, 15% state, and 35% Town of Chase City.

- Capital costs for two vehicles (one primary and one spare) and bus stop signs would be split 80% federal, 10% state, and 10% local.

- Estimated additional annual ridership is likely to be about 4,800 trips, based on ridership on the BABS Dinwiddie route.

County-wide Deviated Fixed-Route Service (Phase 3)

This project builds on the town-wide deviated fixed routes planned for FY 2017 by implementing a deviated fixed-route network connecting the entire Lake Country area. The routes could function independently, added as funding allows. For example,

the South Boston-South Hill Regional Connector described in Chapter 4 would be one piece of the greater network.

The network would run Monday through Friday, two round trips per day for connector routes and eight round trips per day for the in-town routes. A total of nine routes would result in about 6,451 annual revenue hours in addition to already established in-town deviated fixed routes. Each route would require one vehicle with a spare ratio of 20%, nine additional vehicles would be needed (seven in service and two spares).

- Schedule and route map design and printing are considered operating expenses. This cost is estimated to be $5,000.

- Using the FY 2012 operating cost per hour of $37.18, an additional 6,451 annual revenue hours would cost about $239,850.

- Maintaining the budgeted FY 2012 average farebox recovery of 10%, the net deficit would be about $215,900, split in the same manner as the current net deficit.

- Capital costs for nine additional vehicles and approximately 100 bus stop signs would be split 80% federal, 10% state, and 10% local.

- Estimated annual ridership (based on BABS Brunswick Express 2.02 trips per hour) is likely to be 13,000 additional trips.

County-wide Demand-Response Service (Phase 4)

The final phase in the vision category fills in the area between Lake Country's deviated fixed-route network with county-wide demand-response service. A rate of .6 trips per capita would result in an estimated annual demand of 52,000 trips in the three counties, less the approximately 23,000 trips served through Phase 3's deviated fixed-route network.

At two trips per hour (based on Bay Aging's FY08 county-wide demand-response rate of 2.35 trips per hour), it would take about 14,400 additional hours to serve this demand. Assuming annual vehicle availability of approximately 1,600-1,800 vehicle hours per vehicle per year, and a spare ratio of 20%, a total of eight vehicles and two spares would be necessary. LCAAA would then zone the demand-response service in order to manage demand and maintain productivity.

- Approximately 14,400 additional service hours at $37.18 per hour would cost about $536,000 annually. These costs would include additional drivers and administrative staff.

- Maintaining the budgeted FY 2012 average farebox recovery of 10%, the net deficit for this expansion would be about $482,500. The deficit would be split up to 50% Federal Section 5311, 15% state, and 35% local.

- Capital costs for eight primary and two spare vehicles would be split 80% federal, 10% state, and 10% local.

- Estimated additional annual ridership is likely to be about 29,000 trips.

Recommendation: Create an Advisory Council Transportation Subcommittee

As discussed in Chapter 3, LCAAA has an Advisory Council that provides input to the LCAAA Board of Directors regarding the Area Plan for Aging and on other issues, including transportation. It is recommended that a Transportation Subcommittee of the Advisory Council be formed to review the goals and objectives of LCAAA transportation as set forth in Chapter 2, and the progress of the Agency in meeting the goals. Changes in goals and objectives could be recommended by the Subcommittee, as needed. In addition, the Subcommittee would be asked to consider the recommendations of the TDP, making any suggestions regarding needed changes to the Board of Directors, who could then notify DRPT of the changes prior to the annual grant application cycle (so that the LCAAA grant application would be consistent with the TDP). Membership on the Subcommittee could include representatives of the funding jurisdictions, users, and representatives of agency clients who use or need transportation.

Chapter 6

Capital Improvement Plan

INTRODUCTION

This section of the TDP describes the major capital projects (vehicles, facilities, and equipment) needed to support the provision of LCAAA's public transportation services for the six-year period covered by this TDP.

VEHICLE REPLACEMENT AND EXPANSION PROGRAM

As described in Chapter 5, the LCAAA TDP includes both a constrained six-year plan that includes limited expansion of the current Section 5311-funded LAB and HART services, and a separate phased vision plan that presents a potential build-out of public transportation services in the three-county LCAAA region. A separate vehicle replacement and expansion program is provided for each plan (the constrained and vision plans).

Constrained Six-Year Plan

The vehicle inventory in Chapter 1 shows that LCAAA owns four Section 5311-funded body-on-chassis vehicles that are used to provide the general public demand-response LAB and HART services. Two of the four are new (model year 2011), while the remaining two are model year 2006 and function as spares. A vehicle inventory with estimated replacement years is provided as Table 6-1. This corresponds to the financially constrained projects and does not include any vehicle expansion, as the expanded hours and eventual shift to route-deviation service can be operated with the same number of vehicles.

Table 6-1: LCAAA Vehicle Inventory and Replacement Schedule - Financially Constrained (1)

Veh	Year	Make	Model	Identification No.	Garage	Seating Capacity	LIC. Number	Cost	Use	Mileage	Estimated Replacement Year
38	2006	Ford	BOC	1FDWE35S56DB33145	South Hill	10	122-867L	$42,911	LAB/WHCHR	70,052	n/a
39	2006	Ford	BOC	1FDWE35S36DB33146	Halifax	10	122-866L	$42,911	HART/WHCR	103,368	n/a
75	2011	Ford	BOC	1FDFE4FS5BDA13457	South Hill	12	152-100L	$46,792	LAB/WHCHR(2)	12,781	2016
76	2011	Ford	BOC	1FDFE4FS0BDA13463	Halifax	12	159-802L	$46,792	HART/WHCR(2)	15,158	2016

Notes:

(1) 5311 Vehicles only.

The replacement of the two 2006 vehicles is shown as a FY 2016 investment. DRPT capital replacement guidelines allow for the replacement of body-on-chassis vehicles when they have a minimum of four years of service or 100,000 miles. The 2006 vehicles will have exceeded these thresholds, and the 2011 vehicles will be five years old with approximately 100,000 miles. They operate approximately 15,000 miles per year under the current service pattern of eight hours per day, weekdays only, but the mileage may increase if the constrained TDP is implemented and they are operated two more hours per day and Saturdays. By 2016 they will be eligible for replacement as well, but it would make more sense for LCAAA to retire the 2006 buses and shift the 2011 buses to backup use, so the actual replacements will be for the 2006 buses. The new buses are anticipated to be body-on-chassis vehicles equipped with on-board security cameras. If it is anticipated that any of the vision plan may be implemented with these vehicles such that there would be more than one route in each area, it may be prudent to order these vehicles equipped with head signs as well. All vehicles will be lift-equipped to meet ADA requirements.

Under the constrained plan there are few additional changes, and the only other capital needs anticipated during the six-years are updated computers/printers, etc. An estimate is included for this technology.

Section 5310 vehicle replacement needs are addressed through a separate discretionary vehicle replacement process. Replacement vehicle needs will be considered based on the age and mileage of the vehicles being replaced, and their anticipated usage. They are not included in these tables.

Vision Plan

The multi-phase expansion of regional services calls for a significant fleet expansion, as shown in Table 6-2. All of these vehicles would be expansion vehicles. They are assumed to be body-on-chassis vehicles similar to the current LAB and HART vehicles, but equipped with security cameras and head signs to show the destination. Because the actual year of implementation is not known, all estimated costs for these vehicles are the FY 2012 costs.

Table 6-2: LCAAA Vehicle Expansion Schedule - Vision (1)

Number of Vehicles	Model	Seating Capacity	Estimated Expansion Phase
1	BOC	12	Phase 1
2	BOC	12	Phase 2
9	BOC	12	Phase 3
10	BOC	12	Phase 4

(1) Section 5311 Vehicles only.

PASSENGER FACILITIES AND INFORMATION

Constrained Six-Year Plan

For the financially constrained projects, the plan calls for the addition of bus stop signs at various time-point stops along the town-wide deviated fixed routes when they are implemented in FY 2017. Although the exact routes and stops for these deviated fixed-route services will not be determined until implementation, it is anticipated that there would be approximately 15 signs needed for LAB, and a similar number for HART, for a total of 30 signs. These are included in Chapter 7 as additional capital needs.

Vision Plan

Additional bus stop signs are included in the vision plan, the number estimated by assuming an average of one sign every three route miles along the county-wide deviated fixed routes. In practice there are likely to be three or four signs at key stops in a given location (e.g., in Boydton), with signs only at key stops on the routes between towns (e.g., in Big Fork). More detailed route planning at the time of implementation could result in a need for fewer or more signs.

All of these projects are included in the Financial Plan (Chapter 7).

OTHER FACILITIES

It is anticipated that LCAAA will continue to have maintenance and repairs performed by local vendors, and that under the constrained plan there will be no capital required for operating or garage facilities. Under the vision plan, that would continue to be true, but if it were to be fully implemented, the next TDP might well address the need for operating facilities to serve the increased fleet and number of vehicle operators.

Chapter 7

Financial Plan

INTRODUCTION

This chapter provides a financial plan for funding existing and proposed transit services in the LCAAA service area for the six-year planning period. It should be noted that there are currently a number of unknown factors that will likely affect transit finance in this area over the course of this planning period, including the reauthorization of the federal transportation program, the future economic condition of the region and the Commonwealth of Virginia, and the availability of local match for the federal and state funds. The budgets were constructed with the information that is currently available, including the VDRPT Statewide Transportation Improvement Program, the FY 2012 DRPT grant, and LCAAA's FY 2012 transportation budgets. The funding ratios are based on historical funding ratios for rural transit programs in the Commonwealth. The exact revenue available each year will be dependent upon the availability of funding from the federal Section 5311 program, the Commonwealth Transportation Fund, and local sources.

It should be recognized that the local funding match for LAB service is provided by the towns of South Hill, La Crosse and Brodnax; and that the local match for HART service is provided by the towns of South Boston and Halifax. Without this local match there would be no transit service in the region. Proposed expansion of transit services to areas outside these towns would require financial participation by other local governments, either the counties or other towns.

OPERATING EXPENSES AND FUNDING SOURCES

Table 7-1 provides a financial plan for operation of LCAAA's transit services under the financially-constrained six-year plan, and Table 7-2 presents the financial plan for operations under the vision plan. As discussed in the Operations Plan (Chapter 5), the financially constrained plan projects are modest in scope, reflecting the

Table 7-1: LCAAA TDP Financial Plan for Operations- Financially Constrained

Projects (1)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Current Annual Revenue Hours, LAB and HART (2)	4,142	4,142	4,142	4,142	4,142	4,142
Increased marketing and information	-	-	-	-	-	-
Additional AM hour of service			502	502	502	502
Additional PM hour of service				502	502	502
Half day Saturday service					442	442
Town-wide deviated fixed route service						-
Total Transit Service Hours	**4,142**	**4,142**	**4,644**	**5,146**	**5,588**	**5,588**
Projected Operating Expenses						
Cost Per Revenue Hour	$ 37.18	$ 38.90	$ 39.56	$ 40.73	$ 41.99	$ 44.06
LCAAA Operating Expenses- Current Level of Service (3)	$ 154,014	$ 158,634	$ 163,393	$ 168,295	$ 173,344	$ 178,544
Increased marketing and information		$ 2,500	$ 500	$ 500	$ 500	$ 5,000
Additional AM hour of service			$ 19,801	$ 20,395	$ 21,007	$ 21,637
Additional PM hour of service				$ 20,395	$ 21,007	$ 21,637
Half day Saturday service					$ 18,800	$ 19,364
Town-wide deviated fixed route service						$ -
Total Projected Operating Expenses	**$ 154,014**	**$ 161,134**	**$ 183,694**	**$ 209,585**	**$ 234,657**	**$ 246,182**

Notes:

(1) Implementation years/phases are estimated. Implementation will be based on funding availability.

(2) Estimated at 2,071 annual revenue hours each based on 8.25 hours per weekday.

(3) Assumes 3% rate of inflation each year.

Table 7-1: LCAAA TDP Financial Plan for Operations- Financially Constrained (continued)

Anticipated Funding Sources	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Federal						
Section 5311	$ 69,070	$ 71,260	$ 82,663	$ 94,313	$ 105,596	$ 110,782
RTAP		$ 2,500				
Subtotal, Federal	$ 69,070	$ 73,760	$ 82,663	$ 94,313	$ 105,596	$ 110,782
State						
Formula Assistance	$ 25,706	$ 21,753	$ 24,799	$ 28,294	$ 31,679	$ 33,235
Local						
Local Contribution	$ 43,364	$ 49,507	$ 57,864	$ 66,019	$ 73,917	$ 77,547
Revenues- Farebox (1)	$ 15,874	$ 16,113	$ 18,369	$ 20,959	$ 23,466	$ 24,618
Total Local	$ 59,238	$ 65,621	$ 76,233	$ 86,978	$ 97,383	$ 102,166
Total Projected/Proposed Operating Funds/Revenues	**$ 154,014**	**$ 161,134**	**$ 183,694**	**$ 209,585**	**$ 234,657**	**$ 246,182**

Notes:

(1) Maintained from FY 2012 at 10%.

Table 7-2: LCAAA TDP Financial Plan for Operations- Vision

Projects (1)	FY 2012	Phase 1	Phase 2	Phase 3	Phase 4
Current Annual Revenue Hours, LAB and HART (2)	4,142	4,142	4,142	4,142	4,142
LAB service to Boydton		1,791	1,791	1,791	1,791
Deviated fixed route service within Chase City			2,470	2,470	2,470
County-wide deviated fixed route service				6,451	6,451
County-wide demand response service					14,400
Total Transit Service Hours	**4,142**	**5,933**	**8,403**	**14,854**	**29,254**
Projected Operating Expenses					
Cost Per Revenue Hour	$ 37.18	$ 37.18	$ 37.18	$ 37.52	$ 37.35
LCAAA Operating Expenses- Current Level of Service (3)	$ 154,014	$ 154,014	$ 154,014	$ 154,014	$ 154,014
LAB service to Boydton		$ 66,589	$ 66,589	$ 66,589	$ 66,589
Deviated fixed route service within Chase City			$ 91,835	$ 91,835	$ 91,835
County-wide deviated fixed route service				$ 244,848	$ 244,848
County-wide demand response service					$ 535,392
Total Projected Operating Expenses	**$ 154,014**	**$ 220,603**	**$ 312,438**	**$ 557,286**	**$ 1,092,678**

Notes:

(1) Implementation years/phases are estimated. Implementation will be based on funding availability.

(2) Estimated at 2,071 annual revenue hours each based on 8.25 hours per weekday.

(3) Assumes constant FY 2012 dollars due to undetermined timeline.

Table 7-2: LCAAA TDP Financial Plan for Operations- Vision (continued)

Anticipated Funding Sources	FY 2012	Phase 1	Phase 2	Phase 3	Phase 4
Federal					
Section 5311	$ 69,070	$ 99,272	$ 140,597	$ 250,779	$ 491,705
Subtotal, Federal	$ 69,070	$ 99,272	$ 140,597	$ 250,779	$ 491,705
State					
Formula Assistance	$ 25,706	$ 29,781	$ 42,179	$ 75,234	$ 147,512
Local					
Local Contribution	$ 43,364	$ 69,490	$ 98,418	$ 175,545	$ 344,194
Revenues- Farebox (1)	$ 15,874	$ 22,060	$ 31,244	$ 55,729	$ 109,268
Total Local	$ 59,238	$ 91,550	$ 129,662	$ 231,274	$ 453,461
Total Projected/Proposed Operating Funds/Revenues	**$ 154,014**	**$ 220,603**	**$ 312,438**	**$ 557,286**	**$ 1,092,678**

Notes:

(1) Maintained from FY 2012 at 10%.

current economic climate and the current funding partnerships that provide the local match. As Table 7-1 indicates, the annual operating expenses for LCAAA are projected to grow from about $154,014 to $246,182 over the six-year planning period, including inflation at 3% per year, and a limited expansion in service hours.

Table 7-2 details the projects in the vision plan, which is not constrained to reflect the availability of funding. If one assumes that the full vision plan is implemented in addition to the constrained plan, the total annual budget for regional transit service would grow from $154,014 (FY 2012) for the current services to a total of $1,092,678 (in FY 2012 dollars). The vision plan projects are presented as four phases that provide for increasing geographic coverage. The incremental additional costs vary depending on the phase. These costs are calculated in constant FY 2012 dollars due to the undetermined timeline associated with each project. In addition it should be noted that the Phase III regional route-deviation network and the Phase IV county-wide demand-response alternatives could be implemented incrementally over a period of time, or in response to the availability of local match.

Pending the reauthorization of federal transportation programs, the funding level or structure of future federal transit funds is not known. It should be noted that they have generally risen with each successive multi-year transportation funding reauthorization, and that the existing reauthorization proposals generally keep the structure of the current Section 5311 program. In this financial plan, it is assumed that the availability of federal Section 5311 and Commonwealth of Virginia transit funds will increase at the same rate of inflation as the expenses. State funds are included, using the typical current funding level, which is about 15% of the net deficit.

VEHICLE PURCHASE EXPENSES AND FUNDING SOURCES

Table 7-3 presents the vehicle replacement financial plan for the six-year period under the constrained plan, and Table 7-4 presents a financial plan for the expansion vehicles that would be required under the vision plan. The financially constrained projects do not increase the size of the fleet and only require the replacement of two vehicles in FY 2016. The vision projects require expansion by a total of 22 vehicles. The funding splits are assumed to be 80% federal, 10% state, and 10% local. For the constrained plan the estimated cost of the vehicles assumes 3% inflation on the FY 2012 estimated prices, with the actual procurement in FY 2016. In the vision plan, the costs are all based on FY 2012 prices, as the actual time of purchase is not known or predictable.

Table 7-3: LCAAA TDP Financial Plan for Vehicle Replacement and Expansion - Financially Constrained

Number of Vehicles	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Replacement	0	0	0	0	2	0
Expansion	0	0	0	0	0	0
Total Vehicles	0	0	0	0	2	0
Vehicle Costs						
Replacement	$ -	$ -	$ -	$ -	$ 112,551	$ -
Expansion	$ -	$ -	$ -	$ -	$ -	$ -
Total Projected Vehicle Costs	$ -	$ -	$ -	$ -	$ 112,551	$ -
Anticipated Funding Sources						
Federal	$ -	$ -	$ -	$ -	$ 90,041	$ -
State	$ -	$ -	$ -	$ -	$ 11,255	$ -
Local	$ -	$ -	$ -	$ -	$ 11,255	$ -
Total Vehicle Funding	$ -	$ -	$ -	$ -	$ 112,551	$ -

Table 7-4: LCAAA TDP Financial Plan for Vehicle Replacement and Expansion - Vision

Number of Vehicles	FY 2012	Phase 1	Phase 2	Phase 3	Phase 4
Replacement	0	0	0	0	0
Expansion	0	1	2	9	10
Total Vehicles	0	1	2	9	10
Vehicle Costs (1)					
Replacement	$ -	$ -	$ -	$ -	$ -
Expansion	$ -	$ 50,000	$ 100,000	$ 450,000	$ 500,000
Total Projected Vehicle Costs	$ -	$ 50,000	$ 100,000	$ 450,000	$ 500,000
Anticipated Funding Sources					
Federal	$ -	$ 40,000	$ 80,000	$ 360,000	$ 400,000
State	$ -	$ 5,000	$ 10,000	$ 45,000	$ 50,000
Local	$ -	$ 5,000	$ 10,000	$ 45,000	$ 50,000
Total Vehicle Funding	$ -	$ 50,000	$ 100,000	$ 450,000	$ 500,000

Notes:

(1) Assumes constant FY 2012 dollars due to undetermined timeline.

FACILITY IMPROVEMENT EXPENSES AND FUNDING SOURCES

The constrained financial plan for facilities, equipment, and other capital is provided in Table 7-5, and Table 7-6 presents the vision plan requirements. For LCAAA, these expenses are associated with the bus stop signs that become necessary with a transition to deviated fixed routes, and an allowance for replacement of computers, printers and other office technology. As the vision plan has more routes covering the entire region, it includes more funding for signs. In both cases these expenses are also assumed to be funded with federal (80%), state (10%), and local (10%) funds.

INCLUSION IN THE SIX-YEAR TRANSPORTATION IMPROVEMENT PROGRAM (STIP)

The projected capital and operating costs of the LCAAA constrained TDP need to be included in the Commonwealth's STIP in the year called for in the plan. If there are locally-adopted changes in the TDP that would result in changes in the timing or amount of these anticipated expenditures, those TDP amendments would need to be communicated to DRPT to allow it to update the STIP. TDP amendments could also include shifting projects from the vision plan to the constrained plan, if local match is found—in that case the costs of operations and capital for that phase of the vision plan would need to be recalculated to reflect any inflation or other changes in costs from the FY 2012 base provided in this plan.

Table 7-5: LCAAA TDP Financial Plan for Other Capital- Financially Constrained

Projects	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Bus Stop Signs	$ -	$ -	$ -	$ -	$ -	$ 3,478
Miscellaneous Technology Equipment		$ 1,500	$ 1,545	$ 1,591	$ 1,639	$ 1,688
Total Projected Non-Vehicle Capital Expenses	$ -	$ 1,500	$ 1,545	$ 1,591	$ 1,639	$ 5,166
Anticipated Funding Sources						
Federal	$ -	$ 1,200	$ 1,236	$ 1,273	$ 1,311	$ 4,133
State	$ -	$ 150	$ 155	$ 159	$ 164	$ 517
Local	$ -	$ 150	$ 155	$ 159	$ 164	$ 517
Total Projected Non-Vehicle Capital Revenue	$ -	$ 1,500	$ 1,545	$ 1,591	$ 1,639	$ 5,166

Table 7-6: LCAAA TDP Financial Plan for Other Capital- Vision

Projects	FY 2012	Phase 1	Phase 2	Phase 3	Phase 4
Bus Stop Signs	$ -	$ -	$ 800	$ 10,000	$ -
Total Projected Non-Vehicle Capital Expenses	$ -	$ -	$ 800	$ 10,000	$ -
Anticipated Funding Sources					
Federal	$ -	$ -	$ 640	$ 8,000	$ -
State	$ -	$ -	$ 80	$ 1,000	$ -
Local	$ -	$ -	$ 80	$ 1,000	$ -
Total Projected Non-Vehicle Capital Revenue	$ -	$ -	$ 800	$ 10,000	$ -

Notes:

(1) Assumes constant FY 2012 dollars due to undetermined timeline.

Chapter 8

TDP Monitoring and Evaluation

INTRODUCTION

The LCAAA TDP has included the following tasks:

- Detailed documentation and analysis of current public transportation services;
- A peer review showing the service and financial characteristics of transit programs similar in scope to LCAAA;
- A transit needs analysis, including demographic analysis, land use analysis, a review of relevant planning documents, stakeholder interviews, and rider surveys;
- The development of financially constrained and vision alternatives;
- The development of recommendations for transit improvements for inclusion in the TDP, with improvements tentatively identified by year or phase; and
- Financial plans highlighting the funding requirements and potential funding sources for the recommended transit improvements in the region.

The financially constrained and vision projects included in this TDP are attached to particular years and phases, but all of the projects are contingent on future funding. Segmenting the TDP into the two categories will hopefully allow LCAAA greater flexibility to adapt and update its transit services during the six-year planning period.

COORDINATION WITH OTHER PLANS AND PROGRAMS

The study team for this TDP consulted a number of relevant plans and programs during the development of the six-year plan. The following documents were reviewed, with their associated recommendations incorporated where appropriate:

- Southside Coordinated Human Service Mobility Plan
- Town of Chase City and Town of Blackstone/Fort Pickett Area Public Transit Feasibility Study
- Brunswick County Comprehensive Plan
- Halifax County Comprehensive Plan
- Mecklenburg County Comprehensive Plan
- Town of Boydton Comprehensive Plan
- Town of Halifax Revitalization Project
- Town of South Boston Comprehensive Plan 2030
- Town of South Hill Comprehensive Plan
- Statewide Transportation Improvement Program
- Southside Planning District Commission 2035 Rural Long Range Transportation Plan

The projects included in this TDP should be reflected in these area plans and studies as they are updated. The formation of a Transportation Subcommitee of LCAAA's Advisory Council is recommended as a means to provide a mechanism to ensure that the projects incorporated within this TDP are included in internal and external plans in Lake Country and statewide (where appropriate). As mentioned in previous chapters, the recommended projects from this TDP will need to be incorporated into the public transportation element of the DRPT State Transportation Improvement Program (STIP).

SERVICE PERFORMANCE MONITORING

A number of proposed service standards were developed for LCAAA (Chapter 2) for this TDP. The purpose of including these standards was to develop some objective measurements of performance that LCAAA can use to monitor transit services in the future and make objective, performance-based service planning decisions. It is recommended that LCAAA monitor performance quarterly, comparing performance to the same quarter of the previous year (to account for seasonal variations), and comparing trends in monthly data.

ANNUAL TDP MONITORING

For this TDP it is particularly important that LCAAA monitor the progress each fiscal year. Projects may also need to shift from one year to the next if funding is not available. Alternatively, if the reauthorization of the federal transportation funding program is more generous than SAFETEA-LU (the current federal transportation authorizing legislation), projects could potentially be implemented ahead of schedule or additional projects could be added to the TDP.

DRPT guidance currently requires that grantees submit an annual TDP update letter that describes the progress that has been made toward implementing the adopted TDP. This letter should include the following elements:

- Operating statistics for the 12-month period, including the ridership attributed to any new proposals implemented as a result of the TDP.
- Any changes to system goals, objectives, or service standards.
- A description of any service or facility improvements that have been implemented during the 12-month period.
- An update to the TDP recommendations to identify additional projects, deferment of projects to later years, or elimination of projects.
- Updates to the financial plan to more accurately reflect current funding scenarios.

The proposed LCAAA Advisory Council Transportation Subcommittee would review system performance, compare performance to the goals and objectives, determine any needed changes in the goals and objectives, review proposed TDP projects and the availability of resources to accomplish them, and recommend any needed changes in either the goals and objectives of the TDP to the LCAAA Board of Directors for inclusion in the annual TDP update letter described above.

ADOPTION OF THE TDP

The draft version of this TDP was presented to the LCAAA Advisory Council on December 8, 2011 at their regularly scheduled meeting. Following a presentation and discussion, the Advisory Council voted to recommend adoption of the TDP by the LCAAA Board of Directors at its next meeting. The TDP was presented o the Board of Directors at their January 10, 2012 meeting and it was adopted after some discussion of

the need for the Board to work with LCAAA staff to present the study findings to other organizations, including the county governments, to begin building consensus for additional local match to expand general public service coverage. (The presentation is included in Appendix C). A particular example of the need for expanded service was the lack of general public service on the HART bus to the Halifax County Industrial Park, which has several of the major employers in Halifax County, but is located outside the South Boston town limits in the County. The towns of South Boston and Halifax provide local match for HART, but the County does not and so the service is provided only within the Town limits. The vision plan includes county-wide demand-response service, which could address this need (as could a limited extension), but it would require local match from the county. The Board discussion focused on the need to begin building communications and support for such future service expansions, even though current economic conditions might prevent near-term actions.

APPENDIX A

Transit Dependence Index

Appendix A: Transit Dependence Index (TDI)

Public transportation needs are defined in part by identifying the relative size and location of those segments within the general population most likely to be dependent upon some form of public transit services. Once the location of these transit dependent populations is determined and analyzed, it becomes possible to evaluate the extent to which current services meet the needs of community residents. To identify the areas of highest transportation need, the TDI was calculated for each of the Census Block Groups in the Lake Country AAA study area.

The TDI is an aggregate measure that utilizes recent data from the American Community Survey (ACS) five-year estimates and the United State Decennial Census to display relative concentrations of transit dependent populations within a study area. The following section describes the formula used to compute the TDI for each of these block groups, as well as a brief description of the six factors used in its calculation.

$$TDI = PD * (AVNV + AVE + AVY + AVD + AVBP)$$

- PD: population per square mile
- AVNV: amount of vulnerability based on presence of no vehicle households
- AVE: amount of vulnerability based on presence of elderly adult population
- AVY: amount of vulnerability based on presence of youth population
- AVD: amount of vulnerability based on presence of disabled population
- AVBP: amount of vulnerability based on presence of below-poverty population

The input values for the population density (PD) factor follow the previously mentioned classification scheme of the stand-alone population density analysis. A block group with a population density greater than 2,000 persons per square mile is presented a value of four, while a block group with a population density greater than 1,000 persons per square mile and less than or equal to 2,000 is given a PD factor of three. Continuing in intervals of 500, a block group with a population density greater than 500 and less than or equal to 1,000 persons per square mile is presented a PD factor of two, while a block group with less than or equal to 500 persons per square mile and at least one resident is given a value on one. In the event of a block group having zero residents, that particular block group is presented a value of zero.

The following five independent variables represent specific socioeconomic characteristics of the residents in the study area, which are described in the previous bullets. These five factors are given a value that represents their prevalence in the analyzed block group. For each of the factors, an individual block group comprised of a

number of vulnerable persons or households that is below the average number for all block groups in the study area is presented with a value of one. A value of two is given to a block group where its vulnerable population is greater or equal to the study area average (SAA), but less than one and one-third times the SAA. A block group with a vulnerable population greater or equal to one and one-third the SAA, but less than one and two-thirds the SAA is presented with a value of three. This scoring scheme continues for a block group with a vulnerable population greater than one and two-thirds the SAA, but less than twice the SAA for a block group, which is presented a value of four. Finally, any block group that has a vulnerable population or household population that is more than twice the SAA for a block group is given the highest value of five. Once this process is completed for each of the five socioeconomic characteristics, the factors are plugged into the TDI equation in order to determine the transit dependence for each block group within the study area. Each individual block group is then given a TDI classification (very low, low, moderate, high, or very high) that is assigned in a manner similar to the independent variables in the TDI. The difference being that the TDI or dependent variable value in the formula replaces the previously described socioeconomic characteristics or independent variables. Thus, a block group with a TDI below the average TDI score for a block group in the study area is given a value of one or categorization of very low, and so on.

Transit Dependence Index Percent (TDIP)

The TDIP provides a complementary analysis to the TDI measure and its reliance upon the population density factor. The TDIP measure is nearly identical to the TDI measure in every aspect with the lone exception being its exclusion of the persons per square mile (PD) factor. As a result, the TDIP for each block group in the Graham Transit study area is calculated with the following formula and its five independent variables.

$$TDIP = DVNV + DVE + DVY + DVD + DVBP$$

- DVNV: degree of vulnerability based on presence of no vehicle households
- DVE: degree of vulnerability based on presence of elderly adult population
- DVY: degree of vulnerability based on presence of youth population
- DVD: degree of vulnerability based on presence of disabled population
- DVBP: degree of vulnerability based on presence of below-poverty population

Accordingly, the exclusion of the PD factor from the TDIP formula results in the maximum score a single block group may attain being lowered from 100, as is found in the previously described TDI measure, to a score of 25. By removing the PD factor, the TDIP measures the degree of vulnerability, or percent of individuals exemplifying a

particular socioeconomic characteristic out of the overall general population of a block group, rather than the amount of vulnerability, or strictly aggregate number of individuals exemplifying a particular socioeconomic characteristic within a particular block group, that is measured by the TDI. This sole difference between the two indices enables the TDIP to represent a needs assessment that highlights the overall predominance of a specific population throughout a block group's general residence instead of a highlighting of those block groups that have a higher density of persons and consequently an increased chance of having a higher concentration of vulnerable populations simply due to an increase in the block group's overall population.

The five-tiered categorization found in the TDI measure is also utilized for the TDIP measure and is determined by use of the same criteria.

APPENDIX B

Environmental Justice Index

Appendix B: Environmental Justice Index (EJI)

EJI is an aggregate measure that may be employed with mapping software to effectively display relative concentrations of racial and/or ethnic minorities and low-income residents throughout the study area. The structure for the EJI was introduced in a 2004 National Cooperative Highway Research Program report in order to offer "practitioners an analytical framework to facilitate comprehensive assessments of a proposed transportation project's impacts on affected populations and communities.[1]" The application of the EJI within this needs assessment will ensure a high standard of social and economic equality, as outlined in Title VI of the Civil Rights Act of 1964, when evaluating potential modifications to the present public transportation services in the region.

Similar to both the TDI and TDIP, the data utilized for the EJI was compiled by the ACS's five-year estimates, which enabled examination of socioeconomic characteristics at a block group level of analysis, and the United States Decennial Census, which provided the necessary geographic information (e.g., block group boundaries). The data employed by the EJI is described in the subsequent bulleted points, which follow the EJI formula and its three independent variables.

$$EJI = PD * DVM * DVBP$$

- PD: population per square mile
- DVM: degree of vulnerability based on presence of minority population
- DVBP: degree of vulnerability based on presence of below-poverty population

The EJI scoring system is nearly identical to the scoring system used by the TDI measure with the lone exception being the EJI measure's utilization of two independent socioeconomic variables that are multiplied by the PD factor, which is different from the TDI measure's use of five independent socioeconomic variables that are summed and multiplied by the PD factor. Subsequently, the score of the EJI will range from zero to

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[1]Forkenbrock, D. and Sheeley, J. 2004. *Effective Methods for Environmental Justice Assessment.* NCHRP Report 532. Transportation Research Board, National Research Council. Washington, DC: National Academy Press.

100, with a higher score indicating a block group where a larger proportion of minority residents and/or low-income persons are present in an area with an increased population density. The score for the PD factor still ranges from zero to four, which was used in the TDI measure, and the score for the other two socioeconomic characteristics is determined in an equivalent manner as the five additional characteristics used in both the TDI and TDIP measures. Furthermore, the overall block group scores are then compared to the previously described SAA and each block group is accordingly placed into one of five categories (very low, low, moderate, high, or very high) within the classification scheme. This scheme is identical to the five-tier structure described in the TDI and TDIP measures.

APPENDIX C

Board of Directors Meeting – January 10, 2012

Lake Country Area Agency on Aging/Lake Area Bus/Halifax Area Rural Transit Transit Development Plan (TDP)

Board of Directors Meeting

January 10, 2012

(revised presentation)

Today's Agenda

* Introductions
* Purpose of a Transit Development Plan (TDP)
* The Process
* Overview of Report
* Recommendations
* Next Steps

Purpose of a Transit Development Plan

* A TDP is a short-range (6-year) capital & operating plan including implementation (timing & budget)

* DRPT requires all transit systems in Virginia to have a TDP to serve as the basis for their annual applications for capital and operating assistance, and to feed into the statewide Six-Year Plan

* Plan needs annual updating to support the annual grant application—this would reflect changes in needs, funding availability, etc.

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Project Schedule

* Section 1—Overview: August
* Section 2—Goals, Objectives, Standards: August
* Section 3—System Evaluation/Needs Analysis: August
* Section 4—Service Expansion Projects: September
* Section 5—Operations Plan: September
* Section 6—Capital Plan: October
* Section 7—Financial Plan: October
* Section 8—Monitoring and Evaluation: November

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Project Process

* Steering Committee: Met three times between August and November
* Survey of Users and Potential Users
* Stakeholder Interviews
* Needs Analysis based on Census demographic data
* Potential Service Alternatives Developed
* Alternatives Selected Based on Steering Committee Input
* Draft TDP presented to Advisory Council, Board of Directors
* Final Revised TDP

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Chapter 1: Overview of the Transit System

* Governance
  * LCAAA is a private non-profit under Section 501(3)c
  * Board of Directors is the governing board
  * LCAAA has an Advisory Council, but no separate Transportation Advisory Group
* Organizational Structure
  * Transportation Coordinator reports to the Executive Director
  * Transportation Assistants in South Hill office, 1 in Halifax
* Existing Facilities
  * 2 locations, LCAAA offices in South Hill and Halifax
  * Limited office space
  * Vehicle parking is unfenced and unpaved
* Public Outreach
  * Information brochures
  * Public hearings for grants
  * Survey conducted as part of study

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Chapter 1 (continued)

* Transit Services Provided and Areas Served
  * Senior transportation (including congregate meal service)
  * General public transportation (LAB within town limits of South Hill, Brodnax, La Crosse; HART within South Boston, Halifax)
  * Non emergency medical transportation (Medicaid)- 3 counties plus Lunenburg Adult day care transportation in Mecklenburg and Brunswick

* Fare Structure
  * $1.50 per trip on LAB and HART;
  * donations for other services
  * Medicaid is provided under contract

* Fleet
  * 72 vehicles: 34 Section 5310 vehicles, 4 Section 5311 vehicles
  * Remaining used for medical clients or staff transportation Spare ratio of 15% (peak fleet of 33 vehicles, 5 listed as spares)

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Chapter 2: Goals, Objectives, and Standards

* Goals of LCAAA's Transportation Program:
    * Provide transportation services for basic mobility to reach medical services, essential services, and essential shopping
    * Transport as many persons as possible, given the available resources (vehicles, driver hours, etc.) and the rural and small town nature of the service area
    * Provide service safely and dependably, while providing users with a sense of community by personal and friendly service
* Nine objectives to address these goals (see page 2-3)

Chapter 2 (continued)

* Proposed Performance Standards:
  * Efficiency
    * Cost per mile: under $2.50
    * Cost per hour: under $35.00
  * Effectiveness
    * Boardings per mile: .18
    * Boardings per hour: 2.5
  * Combined Measures
    * Cost per trip: under $15
    * Net Cost per trip: under $13.50

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Chapter 3: Service and System Evaluation and Transit Needs Analysis

* Five Year Analysis of Performance (see p. 3-2)
  * LAB- ridership higher in 1st 3 years, declined to current level in 2008
    Unit cost increased through 2009, declined sharply in 2010
  * HART- ridership increased for 1st 2 years, declined to initial level in 2008
    Costs mirrored LAB

* Peer System Review
  * Difficult to make accurate comparisons- differences in service types
  * LAB and HART have somewhat lower operating costs
  * Boardings/mile lower than mean
  * Trips/mile slightly lower than mean

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Chapter 3 (continued)

* On-Board Surveys
  * Nearly half going to a senior center
  * 30% medical trips
  * Frequent users (multiple times per week)
  * 62% do not have a vehicle
  * 78% say no additional places needed
  * Suggested improvements --
    * Earlier morning service 46%
    * More flexibility in scheduling 35%
    * Saturday service 34%

* General Public Surveys
  * 8% have used LCAAA in the past
  * 22% unaware of services available to them
    70% would use regional transit if it met their travel needs
  * >50% think there is need for additional/improved public transit

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Chapter 3 (continued)

* Stakeholder Interviews:
  * Positive impression of services
  * Interest in fixed-route or route deviation systems which would be more visible with designated stops
  * Interest in Saturday service
  * Need for better information on general public availability

* Review of Previous Plans and Studies included:
  * Southside Coordinated Human Service Mobility (CHSM) Plan (2008)
  * Town of Chase City and Town of Blackstone/Fort Pickett Area Public Transit Feasibility Study (2010)
  * Town of South Boston Comprehensive Plan 2030 (2010)

* Demographic Analysis of Transit Need
  * American Community Survey detailed Census data used to analysis location of persons most likely to need transit
  * Locations of potential transit destinations mapped to see if service links high needs areas with key destinations

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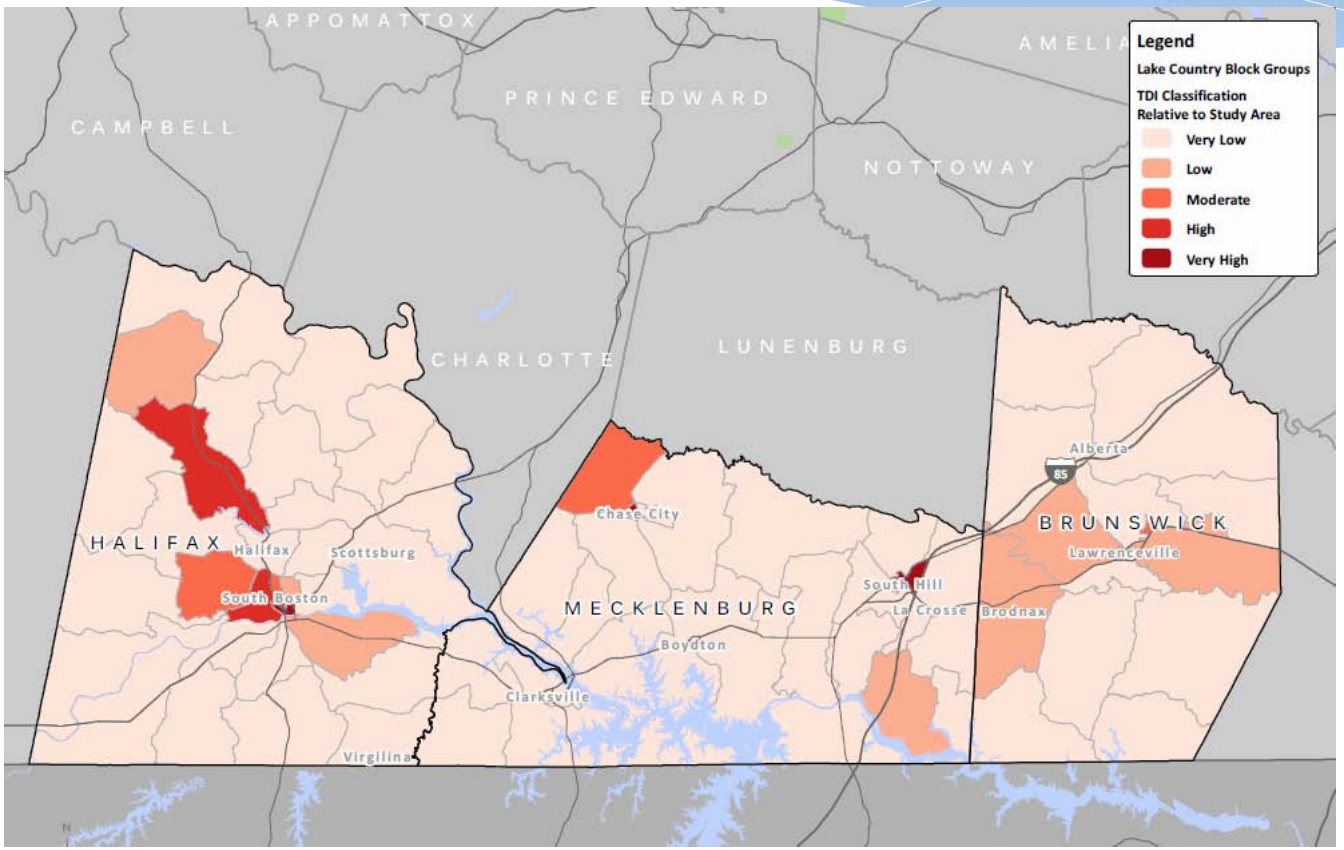
Chapter 3 (continued)

Lake Country Transit Dependence



Recommendations (Chapters 5-8)

* Financially Constrained Plan
* Vision Plan
* General Recommendation: Create an Advisory Council Transportation Subcommittee to assist in annual review of goals and objectives, update of TDP

Financially-Constrained Plan

* Incremental low cost improvements to existing LAB and HART Services spread over the next five years
* TDP proposals would be reviewed annually, modified if necessary prior to annual grant application
* Expansion would depend on availability of local match

Financially Constrained Plan Elements

* FY 2012—Maintain Current LAB and HART Services, replace vehicles when eligible (FY 2016)
* FY 2013—Increased marketing and information
* FY 2014—Add an hour of service in the morning for LAB and HART
* FY 2015—Add an hour of service in the late afternoon for LAB and HART
* FY 2016—Add a half day of LAB and HART service on Saturdays
* FY 2017—If ridership warrants, transition LAB and HART to a Deviated Fixed-Route Service (see maps on next slides)

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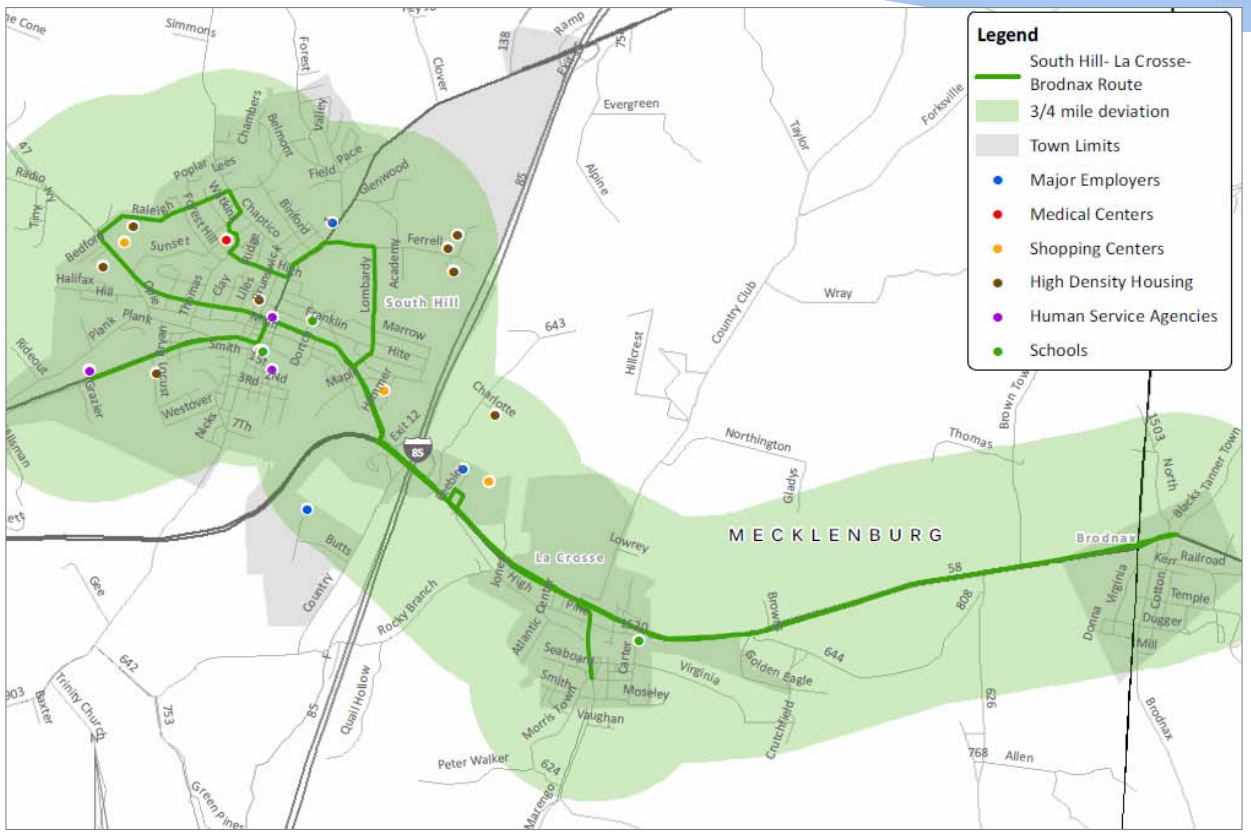
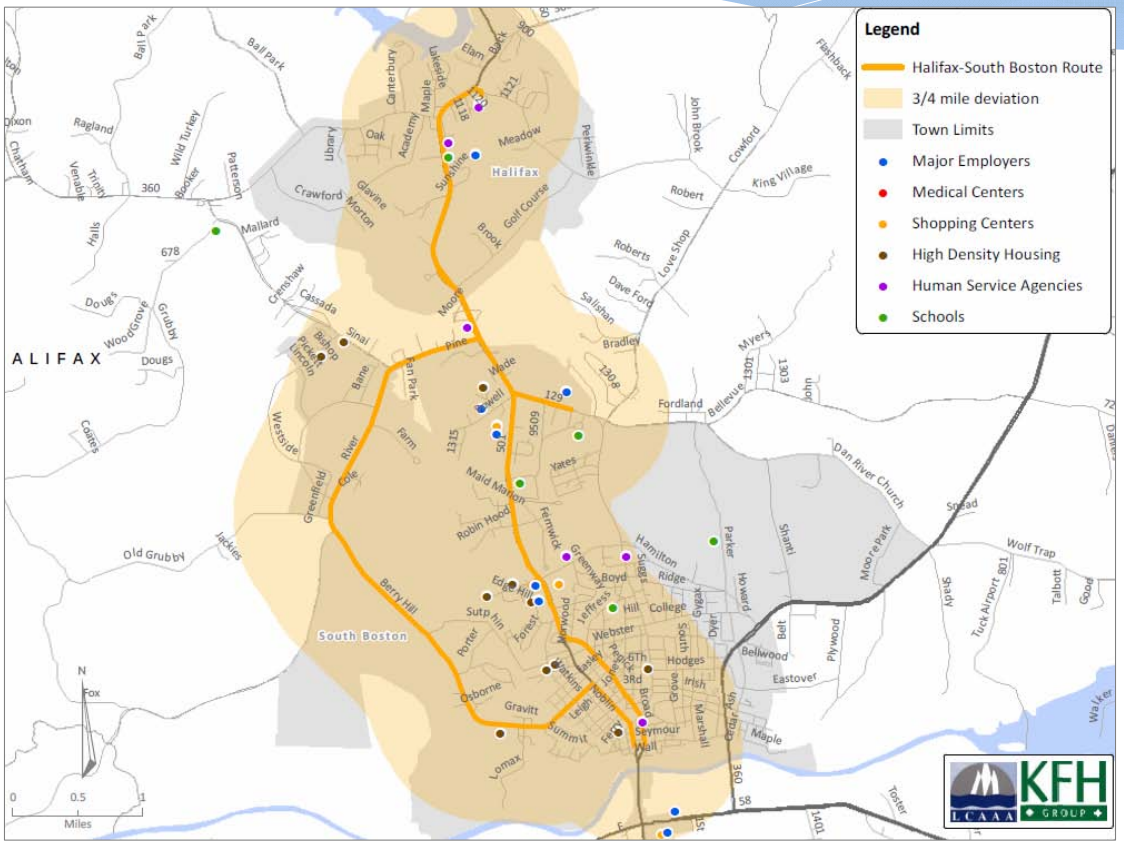
Chapter 3 (continued)

South Hill Deviated Fixed Route



Chapter 3 (continued)

South Boston Deviated Fixed Route



Vision Plan

* Significant service expansions presented in four general phases (no specific year)
* Presents possible rural public transit services similar to some systems elsewhere in Virginia and other states
* Third and Fourth Phases could be spread over multiple years
* Would require significant consensus building to find local partners to fund local match
* Assumes continued availability of federal and state funding

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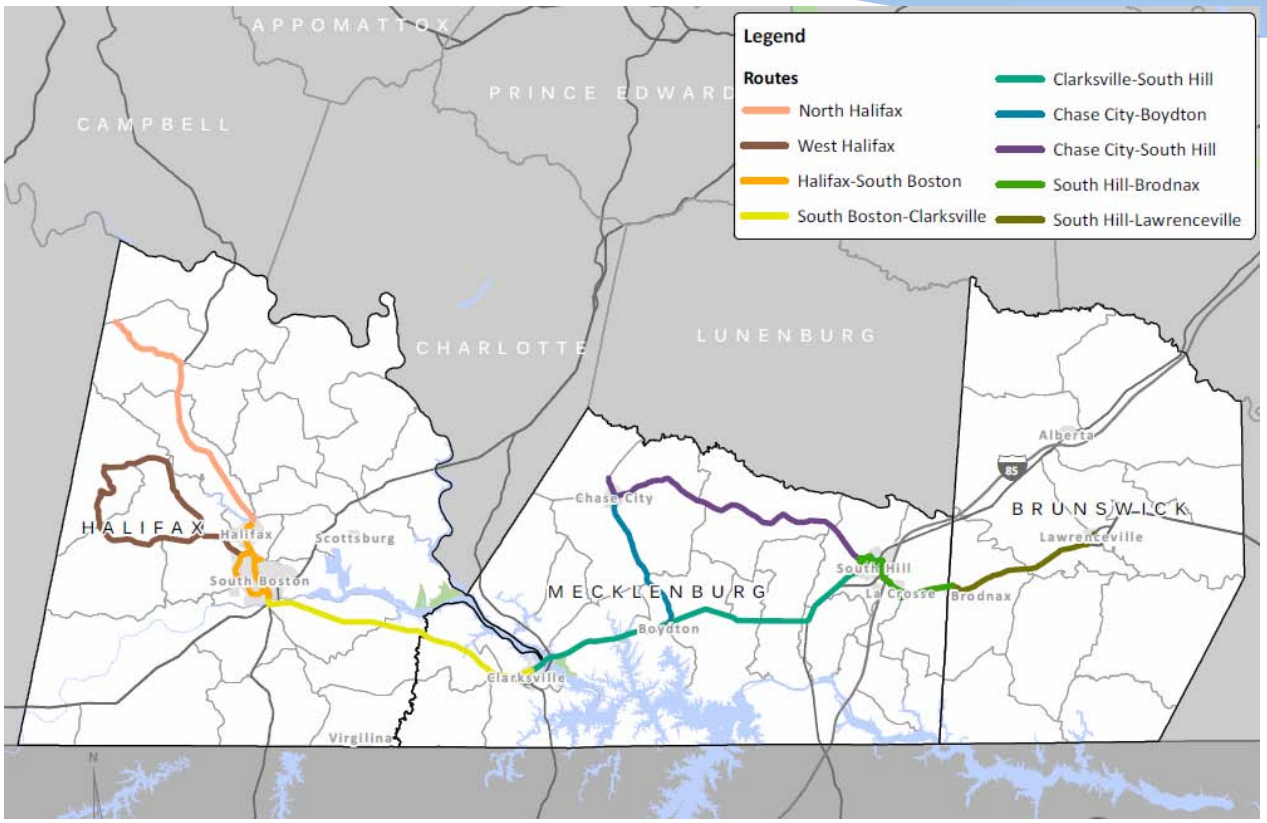
Vision Plan Elements

* Phase I: Expand LAB to serve Boydton (County seat—courts, Health Department, etc.)
* Phase II: Deviated Fixed-Route Service in Chase City
* Phase III: County-wide Deviated Fixed-Route service (all three counties- see map on next slide)
* Phase IV: County-wide Demand-Response Service (all three counties)

Chapter 3 (continued)

Deviated Fixed Route Network



Capital Plan

* Financially-Constrained Plan:
  * Two replacement vehicles in 2016 for LAB and HART
  * Bus stop signs for deviated fixed-route service
* Vision Plan
  * Phase I – Add one small bus (for Boydton route)
  * Phase II – Add two more small buses (Chase City service)
  * Phase III – Add nine small buses (countywide deviated fixed-route service)
  * Phase IV – Add ten small buses (countywide demand-response service)

Financial Plan-Operating Costs

* Financially-Constrained Plan:
  * Total operating costs increase from $154,000 to $246,000 over six years (including 3% inflation)
  * Local share increases from $59,000 to $102,000, assuming state and federal funding shares continue
* Vision Plan:
  * Phase I: Total cost $221,000, local share $92,000 (includes existing service)
  * Phase II: Total cost $312,000, local share $130,000
  * Phase III: Total cost $557,000, local share $231,000
  * Phase IV: Total cost $1,093,000, local share $453,000

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Financial Plan-Capital Costs

* Financially-Constrained Plan:
  * FY 2016: Two new replacement buses — Total Cost $113,000, local share $11,000
  * FY 2012-2017: Misc. Tech. Equipment $1,500 per year, local share $150 (increases 3% per year)
  * FY 2017: Bus stop signs — Total Cost $3,500, local share $350
* Vision Plan
  * Phase I: One expansion bus—Total Cost $50,000, local share $5,000
  * Phase II: Two expansion buses—Total Cost $100,000, local share $10,000; Signs—Total Cost $800, local share $80
  * Phase III: Nine expansion buses---Total Cost$ 450,000, local share $45,000: Signs—Total Cost $10,000, local share $1,000
  * Phase IV: Ten expansion buses—Total Cost $500,000, local share $50,000

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Next Steps

* Advisory Council: accept TDP, recommend adoption
* Board of Directors: adopt TDP
* Continuing—Annual review and update of TDP prior to submitting DRPT annual applications

KFH Group Contact Information

* To download the complete draft report go to the link: http://www.kfhgroup.com/Lake%20Country/tdp.htm
* Questions or comments to:
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  * Holly Chase, Transit Planner, hchase@kfhgroup.com